952341

Confidential Settlement Discussion Document

Removal Action Plan

OU2 Residential Area
Pilsen Area
Chicago, Illinois

H. Kramer

GHD | 6400 Shafer Court Suite 400 Rosemont Illinois 60018
039826 | Report No 26 Rev.1 | November 23 2016

Executive Summary

USEPA and Respondent studies have identified elevated concentrations of lead in residential properties within portions of the Pilsen neighborhood of Chicago, Illinois. The specific area outlined in this Removal Action Plan has been defined by the USEPA as Operational Unit 2 (OU2). The studies have shown lead concentrations greater than the USEPA's residential remedial goal of 400 mg/kg in 54 of the properties sampled.

This Removal Action Plan has been developed to outline procedures and methodology for soil removal from the residential properties within OU2 from which the USEPA and respondent have been able to secure access/remediation agreements. This plan also addresses a contingency of 8 properties where walkup submission of access approvals may occur during remediation of other OU2 properties.

This Report is being submitted per the Unilateral Administrative Order for Removal Action.

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1. Introduction

Studies completed by the United States Environmental Protection Agency (USEPA) and the Respondent have identified elevated concentrations of lead in soil at residential properties within limited portions of the Pilsen neighborhood of Chicago, Illinois. The specific area associated with the investigations outlined in this Removal Action Plan (RAP) has been defined by the USEPA as Operational Unit 2 (OU2) (Site). The studies have shown lead concentrations in soil greater than the USEPA's residential remedial goal of 400 milligrams per kilogram (mg/kg) in 54 of the properties sampled. Not all of the owners of these 54 properties have agreed to allow remediation to occur on their property as of the date of this report. This Report is being submitted per the Unilateral Administrative Order for Removal Action (UAO) (see Appendix A).

The Site (OU2) location is shown on Figure 1 and the limits of OU2 are shown on Figure 2. OU2 has been separated by the USEPA into two areas, Residential Area 1 (Res 1) and Residential Area 2a (Res 2a).

- Non-Responsive
- Non-Responsive

Non-Responsive

The USEPA has notified H Kramer & Company (H Kramer), (hereafter collectively the Respondent) that it is a potentially responsible party under CERCLA for alleged soil contamination at the Pilsen Soil Operable Unit 2 in Chicago, IL (EPA Site ID C5N8-01) (OU2). This document provides information on the removal and remediation of elevated lead in surface soil within the Pilsen area known as OU2, as defined above. The objective of this RAP is to outline the procedures and methodologies for soil removal from the residential properties where lead concentrations in soil greater were detected above the remedial goal of 400 mg/kg within OU2 from which the USEPA and Respondent have been able to secure access/remediation agreements. The RAP also provides details on the property restoration work to be completed following the removal action.

2. Background

2.1 Residential Area Sampling

The results of the USEPA's residential sampling completed in 2013 within residential areas are provided within the Removal Site Evaluation for Pilsen Soil Assessment Area: Residential, Cook County, Illinois Redacted; dated November 4, 2014 (herein called "Residential Report").

During the OU2 field investigation completed in 2016, 39 properties were inspected. Table 1 provides a summary of the properties which were inspected. Based on observations during the property inspections, soil samples were collected at 34 of the properties. Soil sampling activities were completed during the period from April 4, 2016 to June 9, 2016. Five of the properties inspected did not have green space or the property owner refused access to sample. Nine properties had no green space or the detected lead concentration was less than 400 mg/kg. Lead was detected at concentrations greater than 400 mg/kg at 30 properties. Soil sample results from GHD and the USEPA at Non-Responsive were averaged to demonstrate the location was below 400 mg/kg. The side yard and garden at Non-Responsive were not included in the average and will be remediated.

Table 2 provides a summary of the properties inspected and presents a summary of the collected analytical results. Table 2 also includes the USEPA's split sample results. Table 3 presents a summary of the analytical results from the USEPA's sampling in OU2 completed in 2013 at 24 properties and the resampling of two of these properties completed in 2016. Lead was detected at concentrations greater than 400 mg/kg at all 24 of these properties. However, updated access agreements allowing remediation have not been received from seven of the property owners.

Figure 3 provides an overview of the OU2 residential sampling results, including the USEPA's previous sampling data. Based on this figure and the presented data there are:

- 47 properties where lead was detected at concentrations greater than 400 mg/kg and a current access agreement is in place
- Seven properties where lead was detected at concentrations greater than 400 mg/kg and no current access agreement is in place allowing remediation
- Four properties where lead was detected at concentrations less than 400 mg/kg
- Five properties that were inspected did not have green space or the property owner refused access to sample.

3. Residential Access Agreements

3.1 Access Efforts to Date

In 2013 the USEPA worked with representatives of a local citizens group to obtain access from local residents for an area wide background soil sampling event which included OU2. Attempts to obtain access included meeting with the local Alderman, holding a community meeting at a local school and door to door solicitations with residents in the area to obtain access. These efforts resulted in obtaining assess agreements to collect samples from 24 property owners within OU2.

In 2015 and 2016 the USEPA and the Respondent coordinated work to obtain access agreements for the residential properties within OU2 requiring soil sampling. These efforts included the following:

- In the fall of 2015, representatives from the USEPA and Respondent's consultant, GHD, spent several days walking through OU2 to identify properties with green-space.

- Using the list of OU2 properties from the Site walk, GHD then developed a list of current property owners from the Cook County Tax Assessors Web site. This property owner mailing information was provided to the USEPA.
- Using this information, the USEPA developed a Community Outreach Plan to outline the details to obtain property access agreements.
- The USEPA's initial access agreement mailing was completed in late January 2016. Access agreements in both English and Spanish were mailed.
- The USEPA conducted a second mailing in March 2016.
- Access agreements were hand delivered by the USEPA to parcels that had not responded to the mailings in late April 2016.
- During the winter of 2015 and spring of 2016 representatives of PERRO, who had regular communications with the USEPA, made door to door solicitations with residents in OU2 trying to obtain access agreements.
- In addition to the mailings, the USEPA held two public information meetings on January 27, 2016 and February 9, 2016 at a neighborhood church center. Copies of OU2 Fact Sheets and copies of the access agreements were available in both English and Spanish to all attendees at the meetings.
- Copies of the EPA's OU2 Fact Sheets and copies of the access agreements were also made available to residents at the Alderman's offices. Copies of these documents were provided in both English and Spanish there as well.

Notwithstanding all of these extensive efforts by the government, USEPA was able to obtain signed access agreements for less than half of the parcels (39), and some of the residents refused access. No additional mailings or door to door contacts are proposed in association with implementing the OU2 RAP work.

3.2 RAP Access Effort

The USEPA and the Respondent will coordinate work to obtain permission and to secure access for remediation from the residential properties within OU2 where lead was detected at concentrations greater than 400 mg/kg and access agreements for remediation are in place. If possible, the removal action work will be scheduled so the active work is completed in nearby groupings to allow efficiency in performance of the work. The USEPA will be responsible for securing access for remediation from those parcels among the 54 that exceeded the residential standard but have only provided access for sampling.

Arrangements will be made to inspect and sample the two parcels (Non-Responsive Non-Responsive for which USEPA received access agreements after the OU2 sampling was completed; and if those sampling results exceed the residential standard, Respondent will perform the work to remediate those two parcels.

If during the implementation of the OU2 RAP, property owners (owners of Properties within the limits of OU2) approach the Respondent's contractor during the implementation of the OU2 Work and request inclusion of their parcel, they will be provided a copy of the access agreement to sign.

The signed agreement will be forwarded to the USEPA OSC. Arrangements will be made to inspect and sample these additional properties. The Respondent will inspect and sample up to eight additional residential parcels (inclusive of the two properties noted above) if property owners for those parcels walk up or request sampling while the OU2 Work is underway (provided that they execute an access agreement); and will perform the work to remediate soil impacts on those parcels if those sampling results exceed the residential soil standard for lead.

4. Removal/Remediation Objectives

4.1 Removal Action

The work will be completed as a removal action under Title 40 Code of Federal Regulations Part 300.415.

Consistent with the scope allowed under a Removal Action, the following work is included in the Removal Action

1. Fences, warning signs, or other security or site control precautions
2. Excavation, containment, and disposal of non-hazardous materials
3. Restoration of property with clean soil or gravel

4.2 Removal/Remediation Objectives

The Removal Plan has considered the factors identified in 40 CFR 300.415 (B) (2) (i)-(vii) to determine the appropriateness of removal action activities.

1. Excavate (with off-site disposal) or provision of a placement of additional fill material over soils containing lead at concentrations above 400 mg/kg Removal Management Level.
2. Surface cover materials to be implemented will be protective of nearby human populations. Surface covers will provide a protective barrier[1] to prevent migration of contaminants from the soils and direct contact.
3. The removal action contractor will consider the daily weather conditions during removal activities and will protect stockpiled soils and exposed soils from erosion and weather effects.
4. Threat of fire or explosion will be considered throughout the removal action activities. Suitable precautions will be made to prevent exposure to or from these threats.

4.3 Supporting Documents

Prior to beginning the activities identified in the RAP, a Health and Safety Plan (HASP) will be developed and implemented. The HASP will be developed in accordance with Federal Occupational Safety and Health Administration (OSHA) standards for hazardous waste operations (29 CFR 1910.120).

[1] Surface cover will consist of clean imported soil, soil and mulch, soil and sod, soil and a grass seeded mesh material or compacted gravel.

USEPA policy requires that all work performed by or on behalf of USEPA involving the collection of environmental data be implemented in accordance with a USEPA-approved Quality Assurance Project Plan (QAPP). However, no additional soil sampling is anticipated to be conducted in conjunction with the RAP. The only additional sampling proposed at this time is the soil sampling of up to eight additional properties within OU2. However, there may be parcel specific conditions that arise that warrant additional sampling. This additional sampling will be completed in accordance with the approved OU2 Field Sampling Plan and the approved OU2 QAPP (GHD, November 2015).

4.4 Property Documentation

In conjunction with the OU2 RAP, the details regarding each of the properties will be inspected and recorded. This documentation will include the following:

- Photographs of the property, access points and existing condition of the area to be remediated
- Documentation of cover material, vegetation, or plantings within the area to be remediated
- Details regarding property access issues or unsafe conditions
- Documentation of efforts undertaken to obtain access to the area
- Brief interview of the property owner, if present
- Photographs of the property, access points, existing vegetation and the condition of the area after remediation

An Inspection form will document the understanding between GHD and the property owner with respect to the pre-removal site conditions and the agreement on scope of excavation and restoration. A copy of the blank Property Inspection Form is provided in Appendix B. The completed inspection form (including photos) will be provided to the property owner (or a designated representative) and must be signed by the property owner before removal work proceeds.

4.5 Description of Remedy

Respondent will remediate the 54 parcels in OU2 that have been sampled and that exceed the residential soil standard of 400 mg/kg for lead (subject to obtaining the property owners permission to conduct the remediation). In addition, Respondent will sample the two parcels for which EPA received access agreements after the OU2 sampling was completed; and if those sampling results exceed the residential standard, Respondent will perform the Work to remediate those two parcels. Respondent will also agree to sample up to eight additional residential parcels if property owners for those parcels walk up or request sampling while the OU2 Work is underway (provided that they execute an access agreement, see Section 3.2); and will perform the Work to remediate soil impacts on those parcels if those sampling results exceed the residential soil standard for lead.

Details regarding the removal action are as follows:

1. No legal property surveys are required during the removal action.
2. A public utility locate will be coordinated for each of the properties.

3. The removal action will include excavation of soil to a depth of (1 foot in yards and 2 foot in gardens)[2] at locations where sampling results have confirmed the presence lead at concentrations above 400 mg/kg (provided utilities, groundwater and other obstructions are not encountered prior to reaching the target depth).

4. Excavation work will be performed by hand digging or soil tilling followed by vacuum excavation or by machine excavation dependent upon the volume and property access restrictions. Air monitoring will be conducted at the excavation and at the vacuum truck pursuant to the Health and Safety Plan. Excavation work will also include surface water run-off/run-on controls to prevent the spread of lead contaminated soil as appropriate (include cleanup of visible residual soils tracked in and out of site). Water will be made available and used if needed for dust control.

5. Excavated soil will be transported off-site and disposed as a non-hazardous material at a permitted landfill.

6. An initial exposure assessment will be conducted and will include lead and dust monitoring to demonstrate that respiratory protection is not required during the removal action. Given the recent experience and air monitoring testing results completed at OU1 (where lead levels were higher), respiratory protection should not be required and will not be worn during the initial assessment. Should initial monitoring show otherwise, then protective equipment will be used.

7. Once the excavation/removal is completed to the target depth the area will be backfilled with soil or gravel (dependent upon the owner's preference). The Work Plan will allow flexibility in the field regarding restoration and backfill. No additional samples are anticipated to be collected from the excavated areas or on the properties. Fill soil material sources will be required to meet the Illinois clean fill requirements.

8. In general, soil excavation procedures around small trees and bushes shall be conducted in a case by case basis in coordination with the owner. Each property will be evaluated to see if it is practical to excavate 6 inches deep and closer to trees or bushes without damage. For smaller bushes, consideration will be given to removal and replacement. Areas beneath stairways and decks with lead greater than 400 mg/kg will be excavated to a depth of 12 inches (if possible and obstructions are not encountered). In the event that excavation is not practical, an engineered barrier will be established.

9. Excavated areas will have a permanent marker (e.g., fabric) at the bottom of the excavation.

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[2] * Excavation depths are specified due to the following site-specific conditions specified:

a. Typical yards and garden In OU2 are four to five feet below street level. EPA has reason to believe that groundwater in this area is at about 5-6 feet below the ground level. Boring logs from CRA's (aka GHD) investigation in 2006 of H. Kramer show that soils are wet at 6 ft bgs at almost every location bored. Boring logs attached (Appendix C). In addition the state depository for well logs, http://maps.isgs.illinois.edu/ILWATER/, indicates a well drilled at Benito Juarez in 1992 that shows water at 5 ft bgs in the core, then static levels at 3 ft bgs. Boring logs attached (Appendix B). Excavation of the soil should be limited to above the groundwater level. Excavation of the soil in the saturated zone may increase the risk of mobilizing lead and affect the effectiveness of the remedy.

b. Due to the sunken nature of the yards and age of the homes and neighborhood (about 100 years old), EPA anticipates that present and historical underground utilities (such as water, gas, sewer, stormwater, cable, etc.) may be present at depth below the surface at less than two feet. Removal of the soil should be conducted in a manner to minimizing damage to these underground utilities.

10. The remediated area will be restored to the extent practicable with similar types of cover material, vegetative cover and plantings.

11. Once restored/sodded or seeded the Respondent nor their contractor are not responsible for watering, maintenance or future replacement of the restored area.

12. Placement of additional clean fill material may be used as an alternative to excavation at select properties. This alternative option will be determined in the field based on agreement of the USEPA OSC and the contractor and property owner.

13. A final inspection by EPA and GHD will be conducted and will document the restoration. The property owner will be asked to sign off that the restoration has been complete.

14. A signed restoration form will be requested from each property owner.

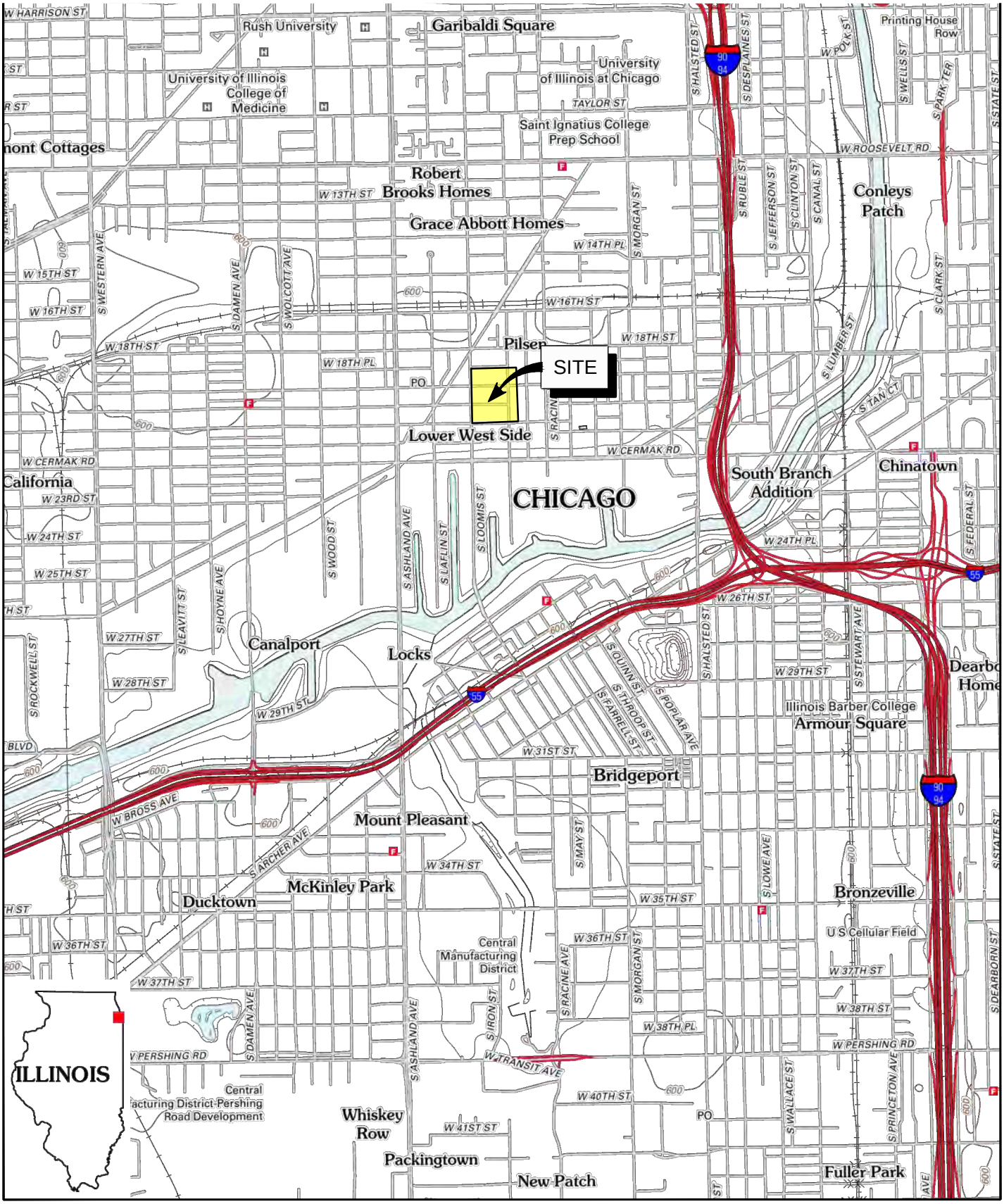
Table 4 provides a summary of the areas, sizes and the estimated volume to soil/material to be removed as part of the remedy.

Following removal action, GHD will develop and certify a letter report documenting the removal actions completed at each property. A separate report will be developed for each property. The report will include a written summary of the work completed and include a photo documentation of the work completed.

4.6 Overall Protection of Human Health and the Environment

Contaminants of potential concern for the human health pathway are lead. The proposed remedial action is to excavate and dispose of soil that exceeds 400 mg/kg lead concentrations and to install replacement surface cover material.

Figures



BASE SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE; ENGLEWOOD, ILLINOIS 2012

0 1200 2400ft

OU2 PILSEN AREA
CHICAGO, ILLINOIS

SITE LOCATION

39826-01

Oct 25, 2016

FIGURE 1

0 150 300ft

PILSEN AREA
CHICAGO, ILLINOIS

OU2 LIMITS

39826-01

Oct 25, 2016

FIGURE 2

CAD File: I:\DRAWINGS\30000s\39826\39826-REPORT\39826-01(026)\39826-01(026)GN\39826-01(026)GN-CO002.dwg

Non-Responsive

GIS File: Q:\GIS\PROJECTS\39000s\39826\Layouts\026\039826-01(026)GIS-OT001.mxd

Tables

Table 1

OU2 Residential Inspections (April to June 2016)
OU2 Area of Pilsen – Chicago, Illinois

Non-Responsive

Table 2

OU2 Residential Data Summary Table
OU2 Area of Pilsen – Chicago, Illinois

Non-Responsive

Property Clean or no Greenspace	Property with Lead >400 mg/k	Sample ID	Sample Date	Sample Type	Sample Location	Sample Depth (feet BGS)	GHD Lead Conc. (mg/kg)	Zinc Conc. (mg/kg)	Zn/Pb Ratio	EPA Split Sample Conc. (mg/kg)
1		S-160407-GW-025	4/7/2016	Original	Back Yard	0-0.5 ft BGS	48 J			91.4 J
1		S-160407-GW-026	4/7/2016	Duplicate	Back Yard	0-0.5 ft BGS	260 J			167 J
	1	S-160411-GW-041	4/11/2016	Original	Back Yard	0-0.5 ft BGS	1000			1690
	2	S-160411-GW-037	4/11/2016	Original	Garden	0-0.8 ft BGS	3800			4280
	2	S-160411-GW-038	4/11/2016	Duplicate	Garden	0-0.8 ft BGS	2800			3080
	3	S-160412-GW-045	4/12/2016	Original	Garden	0-1 ft BGS	770			807
	4	S-160411-GW-039	4/11/2016	Original	Garden	0-1 ft BGS	1400			1550
		S-160411-GW-040	4/11/2016	Original	Garden	0-0.5 ft BGS	120			119
	5	S-160411-GW-043	4/11/2016	Original	Front Garden	0-1 ft BGS	2600			2570
	5	S-160411-GW-042	4/11/2016	Original	Garden	0-0.5 ft BGS	1700			2100
2		S-160412-GW-047	4/12/2016	Original	Back Yard	0-0.5 ft BGS	150			174
	6	S-160407-GW-027	4/7/2016	Original	Back Garden	0-1 ft BGS	1300			1710
	6	S-160407-GW-028	4/7/2016	Original	Back Yard	0-0.5 ft BGS	1500			1410
	7	S-160411-GW-036	4/11/2016	Original	Back Yard	0-0.5 ft BGS	580			737
	8	S-160407-GW-030	4/7/2016	Original	Other	0-0.5 ft BGS	4000			4050
	8	S-160407-GW-029	4/7/2016	Original	Front Yard	0-0.3 ft BGS	2500			1680
	9	S-160404-GW-001	4/4/2016	Original	Back Yard	0-0.5 ft BGS	1300			1470
	10	S-160404-GW-002	4/4/2016	Original	Back Yard	0-0.5 ft BGS	2100			2900
	10	S-160404-GW-003	4/4/2016	Original	Front Yard	0-0.5 ft BGS	6400	1900	0.30	4400
	10	S-160404-GW-004	4/4/2016	Duplicate	Front Yard	0-0.5 ft BGS	5700	2000	0.35	
	11	S-160404-GW-005	4/4/2016	Original	Front Yard	0-0.5 ft BGS	2200			3340
	12	S-160404-GW-010	4/4/2016	Original	Under Deck	0-0.5 ft BGS	540	690	1.28	928
	12	S-160404-GW-007	4/4/2016	Original	Front Yard	0-0.5 ft BGS	3900	3100	0.79	2880
	12	S-160404-GW-008	4/4/2016	Original	Garden	0-0.5 ft BGS	930	1200	1.29	907
	13	S-160404-GW-009	4/4/2016	Original	Front Yard	0-0.5 ft BGS	2600	2300	0.88	2580
	13	S-160404-GW-011	4/4/2016	Original	Garden	0-0.5 ft BGS	1500	1200	0.80	1370
	14	S-160405-GW-013	4/5/2016	Original	Back Garden	0-1 ft BGS	1600			1630
	14	S-160405-GW-014	4/5/2016	Original	Garden	0-1 ft BGS	1300	2700	2.08	1950/2140
	15	S-160405-GW-012	4/5/2016	Original	Back Yard	0-0.5 ft BGS	1000			1260
	16	S-160405-GW-015	4/5/2016	Original	Garden	0-1 ft BGS	2300			1890
	17	S-160407-GW-032	4/7/2016	Original	Back Yard	0-0.5 ft BGS	550			734
	17	S-160407-GW-033	4/7/2016	Original	Front Yard	0-0.5 ft BGS	430			425
	18	S-160406-GW-020	4/6/2016	Original	Back Yard	0-0.5 ft BGS	1300			1780
	18	S-160406-GW-019	4/6/2016	Original	Back Yard	0-0.5 ft BGS	880			1560
	19	S-160411-GW-034	4/11/2016	Original	Back Yard	0-0.5 ft BGS	420	500	1.19	672
	20	S-160412-GW-046	4/12/2016	Original	Front Yard	0-0.5 ft BGS	600			934/790
	21	S-160411-GW-035	4/11/2016	Original	Back Yard	0-0.5 ft BGS	550	760	1.38	778 J
	22	S-160406-GW-018	4/6/2016	Original	Back Yard	0-0.5 ft BGS	940			1070
3		S-160405-GW-016	4/5/2016	Original	Front Yard	0-0.5 ft BGS	420 (average is 381.5)	1000	2.38	343
4		S-160406-GW-022	4/6/2016	Original	Back Garden	0-1 ft BGS	330			399
4		S-160406-GW-021	4/6/2016	Original	Garden	0-1 ft BGS	150			155
	23	S-160406-GW-024	4/6/2016	Original	Front Garden	0-1 ft BGS	510	610	1.20	501
		S-160406-GW-023	4/6/2016	Original	Front Yard	0-0.5 ft BGS	130			163
	24	S-160405-GW-017	4/5/2016	Original	Back Yard	0.5-1 ft BGS	450			553
	25	S-160512-GW-048	5/12/2016	Original	Under Deck	0-0.5 ft BGS	1900			3120
	25	S-160512-GW-049	5/12/2016	Original	Back Garden	0-1 ft BGS	2500			2630
		S-160512-GW-050	5/12/2016	Original	Back Garden	0-1 ft BGS	400			292
	26	S-160512-GW-051	5/12/2016	Original	Side Garden	0-1 ft BGS	430			444
	26	S-160512-GW-052	5/12/2016	Original	Side Yard	0-0.5 ft BGS	510			543
		S-160512-GW-053	5/12/2016	Original	Front Garden	0-1 ft BGS	540	Average = 371		228
		S-160512-GW-054	5/12/2016	Duplicate	Front Garden	0-0.5 ft BGS	320			396
	27	S-160512-GW-055	5/12/2016	Original	Back Yard	0-0.5 ft BGS	1900			2240
	28	S-160512-GW-058	5/12/2016	Original	Side Garden	0-0.5 ft BGS	1400			1270
	28	S-160512-GW-059	5/12/2016	Original	Mid Garden	0-0.5 ft BGS	1300			1430
	29	S-160512-GW-057	5/12/2016	Original	Back Yard	0-0.5 ft BGS	1800			2090
	30	S-160609-AK-060	6/9/2016	Original	Back Yard	0-0.5 ft BGS	800			761
5		no greenspace	4/12/2016							
6		no greenspace	5/12/2016							
7		no greenspace per EPA	6/7/2016							
8		owner does not want us to sample								
9		no greenspace per EPA	6/27/2016							

Notes:
mg/kg - milligrams per kilogram
ft BGS - feet below ground surface
> - estimated concentration
Lead >400 mg/kg
Lead <400 mg/kg
Inspected and no green space or owner refused access to sample
Sample results from 2006 Allport and 1859 S. Loomis were averaged.
Sampling completed between April and June 2015

Table 3

OU2 USEPA Residential Data (2013/2016)
OU2 Area of Pilsen – Chicago, Illinois

Numbe	Non-Responsive	Sample ID	Date	Current Access Agreement	Sample Location	Zinc Conc. (mg/kg)	Zn/Pb Ratio	Lead Conc. (mg/kg)
1		PA-370-01 (0-6)-050713	5/7/2013	no	Back Yard	1600	2.29	700
1		PA-370-01 (0-6)-050713	5/7/2013	no	Garden	1600	0.94	1700
2		PA-375-01 (0-6)-050713	5/7/2013	yes	Back Yard	2900	1.61	1800
2		PA-375-02 (0-6)-050713	5/7/2013	yes	Garden	3300	1.32	2500
3		PA-291-01 (0-6)-050113	5/1/2013	yes	Front Yard	620	1.24	500
3		PA-291-03 (0-12)-050113	5/182013	yes	Garden	100	2.94	34
4		PA-272-01 (0-6)-050113	5/1/2013	no	Back Yard	6300	3.15	2000
5		PA-274-01 (0-6)-050113	5/1/2013	no	Back Yard	4900	2.58	1900
5		PA-274-02 (0-6)-050113	5/1/2013	no	Drip Zone	4800	2.40	2000
6		PA-276-01 (0-6)-050116	5/1/2013	no	Back Yard	6300	2.63	2400
7		PA-183-01 (0-12)-050213	5/2/2013	yes	Garden	3600	2.77	1300
8		PA-180-01 (0-6)-050213	5/2/2013	no	Open Lot west	2300	2.84	810
8		PA-180-02 (0-6)-050213	5/2/2013	no	Open Lot east	2800	0.93	3000
9		PA-186-02 (0-6)-050213	5/2/2013	yes	Back Yard	900	2.81	320
9		PA-186-01 (0-6)-050213	5/2/2013	yes	Front Yard	970	2.69	360
9		186-02-032316	3/23/2016	yes	Back Yard	NA	-	764
9		186-01-032316	3/23/2016	yes	Front Yard	NA	-	568
10		PA-191-01 (0-6)-050213	5/2/2013	yes	Back Yard	7200	3.60	2000
11		PA-193-01 (0-6)-050313	5/3/2013	yes	Back Yard	1000	1.72	580
12		PA-127-01 (0-6)-050313	5/3/2013	yes	Back Yard	3200	1.28	2500
13		PA-122-01 (0-6)-050313	5/3/2013	yes	Back Yard	3000	1.58	1900
13		PA-122-02 (0-6)-050313	5/3/2013	yes	Garden	2400	2.61	920
14		PA-105-01 (0-6) 050213	5/2/2013	yes	Front Yard	930	1.45	640
14		PA-105-02 (0-6) 050213	5/2/2013	yes	Back Yard	1100	1.11	990
15		PA-349-01 (0-6)-050713	5/7/2013	no	Front Yard	1800	2.02	890
15		PA-349-03 (0-12)-050713	5/7/2013	no	Back Yard	930	0.66	1400
15		PA-349-02 (0-12)-050713	5/7/2013	no	FY Garden	650	1.03	630
16		PA-351-01 (0-6)-050713	5/7/2013	yes	Front Yard	490	1.26	390
16		351-01-032416	3/24/2016	yes	Front Yard	-	-	486
17		PA-371-02 (0-6)-050713	5/7/2013	no	Front Yard	360	1.13	320
17		PA-371-01 (0-6)-050713	5/7/2013	no	Back Yard	2800	1.56	1800
18		PA-369-03 (0-6)-050713	5/7/2013	yes	Front Yard	2700	1.17	2300

Table 3

OU2 USEPA Residential Data (2013/2016)
OU2 Area of Pilsen – Chicago, Illinois

Number	Non-Responsive	Sample ID	Date	Current Access Agreement	Sample Location	Zinc Conc. (mg/kg)	Zn/Pb Ratio	Lead Conc. (mg/kg)
18		PA-369-01 (0-6)-050713	5/7/2013	yes	Back Yard	1700	1.13	1500
18		PA-369-02 (0-6)-050713	5/7/2013	yes	BY Garden	3000	1.76	1700
18		PA-369-04 (0-6)-050713	5/7/2013	yes	Front Yard Garden	2700	1.17	2300
19		PA-470-01 (0-6)-070913	7/9/2013	yes	Back Yard	3500	1.09	3200
20		PA-84-01 (0-6)-050813	5/8/2013	yes	Front Yard	470	0.78	600
20		PA-84-02 (0-6)-050813	5/8/2013	yes	Back Yard	880	0.80	1100
21		PA-92-01 (0-6)-050813	5/8/2013	yes	Back Yard	1300	1.48	880
21		PA-92-02 (0-12)-050813	5/8/2013	yes	BY Garden	550	1.38	400
22		PA-104-01 (0-6) 050213	5/2/2013	yes	Front Yard	1500	1.61	930
22		PA-104-02 (0-6) 050213	5/2/2013	yes	Back Yard	2400	1.71	1400
22		PA-104-01 (6-12)-071513	7/15/2013	yes	Front Yard	-	-	1200
23		PA-123-01 (0-12) 050313	5/3/2013	yes	Garden	1900	1.73	1100
24		PA-125-01(0-6) 050313	5/3/2013	yes	Full Yard (west)	2900	1.93	1500
24		PA-125-02(0-6) 050313	5/3/2013	yes	Full Yard (east)	2200	2.00	1100
24		PA-125-03(0-6) 050313	5/3/2013	yes	Garden	1500	2.14	700

Notes:
mg/kg - milligrams per kilogram
Lead >400 with current access agreement
USEPA sample location without current access agreement
Lead <400 mg/kg

Table 4

Residential Removal Action Summary
OU2 Area of Pilsen – Chicago, Illinois

Sampling Event	Non-Responsive	Sample ID	Sample Date	Sample Location	Sample Depth (ft. BGS)	GHD Lead Conc. (mg/kg)	USEPA Lead Conc. (mg/kg)	Sample Area Width (feet)	Sample Area Length	Area Size (sq. ft.)	Excavation Depth (ft.)	Volume (cubic ft.)	Volume (CY)
GHD 2016		S-160412-GW-045	4/12/2016	Garden	(0-1) ft BGS	770	807	51	6	306	2.0	612	22.67
EPA 2013		PA-351-01 (0-6)-050713	5/7/2013	Front Yard	(0-0.5) ft BGS	NA	390						
EPA 2013		351-01-032416	3/24/2016	Front Yard	(0-0.5) ft BGS	NA	486	10	16.5	165	1.0	165	6.11
GHD 2016		S-160411-GW-041	4/11/2016	Back Yard	(0-0.5) ft BGS	1000	1690	5	19.5	97.5	1.0	97.5	3.61
GHD 2016		S-160411-GW-037	4/11/2016	Front Garden	(0-0.8) ft BGS	3800	4280	3	7	21	2.0	42	1.56
GHD 2016		S-160411-GW-038 (Dup)	4/11/2016	Front Garden	(0-0.8) ft BGS	2800	3080						
EPA 2013		PA-369-03 (0-6)-050713	5/7/2013	Front Yard	(0-0.5) ft BGS	NA	2300	7	14	98	1.0	98	3.63
EPA 2013		PA-369-01 (0-6)-050713	5/7/2013	Back Yard	(0-0.5) ft BGS	NA	1500	11	33	363	1.0	363	13.44
EPA 2013		PA-369-02 (0-6)-050713	5/7/2013	BY Garden	(0-0.5) ft BGS	NA	1700	3	60	180	2.0	360	13.33
EPA 2013		PA-369-04 (0-6)-050713	5/7/2013	Front Yard Garden	(0-0.5) ft BGS	NA	2300	2	18	36	2.0	72	2.67
EPA 2013		PA-375-01 (0-6)-050713	5/7/2013	Back Yard	(0-0.5) ft BGS	NA	1800	14.5	24.5	355.25	1.0	355.25	13.16
EPA 2013		PA-375-02 (0-6)-050713	5/7/2013	Garden	(0-0.5) ft BGS	NA	2500	3	84	252	2.0	504	18.67
GHD 2016		S-160411-GW-039	4/11/2016	Back Garden	(0-1) ft BGS	1400	1550	80	4	320	2.0	640	23.70
GHD 2016		S-160407-GW-027	4/7/2016	Back Garden	(0-1) ft BGS	1300	1710	32	4	128	1.0	128	4.74
GHD 2016		S-160407-GW-028	4/7/2016	Back Yard	(0-0.5) ft BGS	1500	1410	21	21	441	1.0	441	16.33
GHD 2016		S-160407-GW-030	4/7/2016	Other	(0-0.5) ft BGS	4000	4050	4	7	28	1.0	28	1.04
GHD 2016		S-160407-GW-029	4/7/2016	Front Yard	(0-0.3) ft BGS	2500	1680	6	5	30	1.0	30	1.11
GHD 2016		S-160404-GW-001	4/4/2016	Back Yard	(0-0.5) ft BGS	1300	1470	24	20	480	1.0	480	17.78
GHD 2016		S-160404-GW-002	4/4/2016	Back Yard	(0-0.5) ft BGS	2100	2900	10	16	160	1.0	160	5.93
GHD 2016		S-160404-GW-003	4/4/2016	Front Yard	(0-0.5) ft BGS	6400	4400	11	14	154	1.0	154	5.70
GHD 2016		S-160404-GW-004 (Dup)	4/4/2016	Front Yard	(0-0.5) ft BGS	5700	NA				1.0		
EPA 2013		PA-84-01 (0-6)-050813	5/8/2013	Front Yard	(0-0.5) ft BGS	NA	600	10	16.5	165	1.0	165	6.11
EPA 2013		PA-84-02 (0-6)-050813	5/8/2013	Back Yard	(0-0.5) ft BGS	NA	1100	51.5	6.75	347.625	1.0	347.625	12.88
GHD 2016		S-160404-GW-005	4/4/2016	Back yard	(0-0.5) ft BGS	2200	3340	14	15	210	1.0	210	7.78
GHD 2016		S-160404-GW-010	4/4/2016	Back Deck	(0-0.5) ft BGS	540	928	12	15	180	1.0	180	6.67
GHD 2016		S-160404-GW-007	4/4/2016	Front Yard	(0-0.5) ft BGS	3900	2880	14.5	14	203	1.0	203	7.52
GHD 2016		S-160404-GW-008	4/4/2016	Garden	(0-0.5) ft BGS	930	907	33.5	3	100.5	1.0	100.5	3.72
GHD 2016		S-160404-GW-009	4/4/2016	Front Yard	(0-0.5) ft BGS	2600	2580	10.5	9.5	99.75	1.0	99.75	3.69
GHD 2016		S-160404-GW-011	4/4/2016	Front Yard Garden	(0-0.5) ft BGS	1500	1370				1.0	0	0.00
GHD 2016		S-160405-GW-013	4/5/2016	Back Garden	(0-1) ft BGS	1600	1630	5	28	140	2.0	280	10.37
GHD 2016		S-160405-GW-014	4/5/2016	Garden	(0-1) ft BGS	1300	1950/2140	13.5	11	148.5	2.0	297	11.00
EPA 2013		PA-92-01 (0-6)-050813	5/8/2013	Back Yard	(0-0.5) ft BGS	NA	880	32	21	672	1.0	672	24.89
GHD 2016		S-160405-GW-012	4/5/2016	Back Yard	(0-0.5) ft BGS	1000	1260	21	21	441	1.0	441	16.33
GHD 2016		S-160405-GW-015	4/5/2016	Garden	(0-1) ft BGS	2300	1890	8	13	104	1.0	104	3.85
GHD 2016		S-160407-GW-032	4/7/2016	Back Yard	(0-0.5) ft BGS	550	734	47	25	1175	1.0	1175	43.52
GHD 2016		S-160407-GW-033	4/7/2016	Front Yard	(0-0.5) ft BGS	430	425	13	11	143	1.0	143	5.30
EPA 2013		PA-104-01 (0-6) 050213	5/2/2013	Front Yard	(0-0.5) ft BGS	NA	930	14	10.5	147	1.0	147	5.44
EPA 2013		PA-104-02 (0-6) 050213	5/2/2013	Back Yard	(0-0.5) ft BGS	NA	1400	72	10	720	1.0	720	26.67
EPA 2013		PA-104-01 (6-12)-071513	7/15/2013	Front Yard	(0-1) ft BGS	NA	1200						
EPA 2013		PA-105-01 (0-6) 050213	5/2/2013	Front Yard	(0-0.5) ft BGS	NA	640						
EPA 2013		PA-105-02 (0-6) 050213	5/2/2013	Back Yard	(0-0.5) ft BGS	NA	990						
GHD 2016		S-160412-GW-046	4/12/2016	Front Yard	(0-0.5) ft BGS	600	934/790	100	20	2000	1.0	2000	74.07
GHD 2016		S-160512-GW-048	5/12/2016	Under Deck	(0-0.5) ft BGS	1900	3120	6.5	15	97.5	1.0	97.5	3.61
GHD 2016		S-160512-GW-049	5/12/2016	Back Garden	(0-1) ft BGS	2500	2630	5	2	10	2.0	20	0.74
GHD 2016		S-160609-AK-060	6/9/2016	Back Yard	(0-0.5) ft BGS	800	761	12.5	17	212.5	1.0	212.5	7.87
EPA 2013		PA-122-01 (0-6)-050313	5/3/2013	Back Yard	(0-0.5) ft BGS	NA	1900	19	18	342	1.0	342	12.67
EPA 2013		PA-122-02 (0-6)-050313	5/3/2013	Garden	(0-0.5) ft BGS	NA	920	5	38	190	1.0	190	7.04
EPA 2013		PA-123-01 (0-12) 050313	5/3/2013	Garden	(0-1) ft BGS	NA	1100	3	22	66	2.0	132	4.89
EPA 2013		PA-125-01(0-6) 050313	5/3/2013	Full Yard (west)	(0-0.5) ft BGS	NA	1500						

Table 4

Residential Removal Action Summary
OU2 Area of Pilsen – Chicago, Illinois

Sampling Event	Non-Responsive	Sample ID	Sample Date	Sample Location	Sample Depth (ft. BGS)	GHD Lead Conc. (mg/kg)	USEPA Lead Conc. (mg/kg)	Sample Area Width (feet)	Sample Area Length	Area Size (sq. ft.)	Excavation Depth (ft.)	Volume (cubic ft.)	Volume (CY)
EPA 2013		PA-125-02(0-6) 050313	5/3/2013	Full Yard (east)	(0-0.5) ft BGS	NA	1100						
		PA-125-03(0-6) 050313	5/3/2013	Garden	(0-0.5) ft BGS	NA	700						
EPA 2013		PA-127-01 (0-6)-050313	5/3/2013	Back Yard	(0-0.5) ft BGS	NA	2500	20	21	420	1.0	420	15.56
GHD 2016		S-160512-GW-058	5/12/2016	Side Garden	(0-0.5) ft BGS	1400	1270	2	60	120	2.0	240	8.89
GHD 2016		S-160512-GW-059	5/12/2016	Mid Garden	(0-0.5) ft BGS	1300	1430	1.5	23	34.5	2.0	69	2.56
GHD 2016		S-160512-GW-057	5/12/2016	Back Yard	(0-0.5) ft BGS	1800	2090	10	22	220	1.0	220	8.15
GHD 2016		S-160411-GW-043	4/11/2016	Front Garden	(0-1) ft BGS	2600	2570	30	1.25	37.5	2.0	75	2.78
GHD 2016		S-160411-GW-042	4/11/2016	Garden	(0-0.5) ft BGS	1700	2100	103	1.25	128.75	2.0	257.5	9.54
EPA 2013		PA-291-01 (0-6)-050113	5/1/2013	Front Yard	(0-0.5) ft BGS	NA	500	12	24.5	294	1.0	294	10.89
GHD 2016		S-160411-GW-036	4/11/2016	Back Yard	(0-0.5) ft BGS	580	737	2.5	25	62.5	1.0	62.5	2.31
GHD 2016		S-160512-GW-051	5/12/2016	Side Garden	(0-1) ft BGS	430	444	2.5	43	107.5	2.0	215	7.96
GHD 2016		S-160512-GW-052	5/12/2016	Side Yard	(0-0.5) ft BGS	510	543	2.5	43	107.5	1.0	107.5	3.98
GHD 2016		S-160411-GW-034	4/11/2016	Back Yard	(0-0.5) ft BGS	420	672	9	4	36	1.0	36	1.33
GHD 2016		S-160411-GW-035	4/11/2016	Back Yard	(0-0.5) ft BGS	550	778 J	7	22	154	1.0	154	5.70
EPA 2013		PA-470-01 (0-6)-070913	7/9/2013	Back Yard	(0-0.5) ft BGS	NA	3200						
GHD 2016		S-160406-GW-020	4/6/2016	Back Yard Center	(0-0.5) ft BGS	1300	1780	11.5	16	184	1.0	184	6.81
GHD 2016		S-160406-GW-019	4/6/2016	Back Yard Perimeter	(0-0.5) ft BGS	880	1560	7.5	19	142.5	1.0	142.5	5.28
GHD 2016		S-160406-GW-018	4/6/2016	Back Yard	(0-0.5) ft BGS	940	1070	21	2	42	1.0	42	1.56
EPA 2013		PA-183-01 (0-12)-050213	5/2/2013	Garden	(0-1) ft BGS	NA	1300	3.5	15	52.5	2.0	105	3.89
EPA 2013		PA-186-02 (0-6)-050213	5/2/2013	Back Yard	(0-0.5) ft BGS	NA	320						
EPA 2013		PA-186-01 (0-6)-050213	5/2/2013	Front Yard	(0-0.5) ft BGS	NA	360						
EPA 2013		186-02-032316	3/23/2016	Back Yard	(0-0.5) ft BGS	resample 2016	764	66	3.5	231	1.0	231	8.56
EPA 2013		186-01-032316	3/23/2016	Front Yard	(0-0.5) ft BGS	resample 2016	568			212	1.0	212	7.85
GHD 2016		S-160512-GW-055	5/12/2016	Back Yard	(0-0.5) ft BGS	1900	2240	23	21.5	494.5	1.0	494.5	18.31
GHD 2016		S-160406-GW-024	4/6/2016	Front Garden	(0-1) ft BGS	510	501	108	4	432	2.0	864	32.00
EPA 2013		PA-191-01 (0-6)-050213	5/2/2013	Back Yard	(0-0.5) ft BGS	NA	2000	20	21	420	1.0	420	15.56
EPA 2013		PA-193-01 (0-6)-050313	5/3/2013	Back Yard	(0-0.5) ft BGS	NA	580	?	?		no drawing		
GHD 2016		S-160405-GW-017	4/5/2016	Back Parking	(0.5-1) ft BGS	450	553	57	25	1425	1.0	1425	52.78

Appendices

Appendix A
Unilateral Administrative Order for Removal Action

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

SEP 22 2016

REPLY TO THE ATTENTION OF:

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

H. Kramer & Co.
c/o Mr. Howard Chapman, Jr.
President
1345 West 21st Street
Chicago, Illinois 60608

Re: Pilsen Soil Operable Unit 2 Residential Site, Chicago, Cook County, Illinois
Site Spill Identification Number: C5N8__02 (Residential)
Unilateral Administrative Order

Dear Mr. Chapman:

Enclosed please find a unilateral Administrative Order issued by the U.S. Environmental Protection Agency under Section 106 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended ("CERCLA"), 42 U.S.C. §§ 9601-9675.

Please note that the Order allows an opportunity for a conference if requested within five (5) calendar days after the Order is signed by the Director of the Superfund Division of EPA Region 5. If no such conference is requested, the Order also allows an opportunity to submit comments within ten (10) calendar days after the Order is signed by the Director of the Superfund Division of EPA Region 5.

If you have any questions regarding the Order, feel free to contact Robert M. Peachey, Associate Regional Counsel, at (312) 353-4510, or peachey.robert@epa.gov, or Ramon C. Mendoza, On-Scene Coordinator, at (312) 886-4314, or mendoza.ramon@epa.gov.

Sincerely,

Douglas Ballotti, Acting Director
Superfund Division

Enclosures

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 5

IN THE MATTER OF: Pilsen Soil Operable Unit 2 Residential Site, Chicago, Illinois H. Kramer & Co., Respondent. Proceeding under Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended, 42 U.S.C. § 9606(a).	CERCLA Docket No. ____ **UNILATERAL ADMINISTRATIVE ORDER FOR REMOVAL ACTIONS**

UNILATERAL ADMINISTRATIVE ORDER FOR REMOVAL ACTIONS

TABLE OF CONTENTS

I. JURISDICTION AND GENERAL PROVISIONS

1. This Administrative Order ("Order") is issued under the authority vested in the President of the United States by Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act, (CERCLA), 42 U.S.C. § 9606(a). This authority was delegated to the Administrator of the United States Environmental Protection Agency (EPA) by Executive Order No. 12,580, 52 Fed. Reg. 2,923 (Jan. 23, 1987), and further delegated to the Regional Administrators by EPA Delegation Nos. 14-14-A and 14-14-B. This authority was further redelegated by the Regional Administrator of EPA Region 5 to the Director of the Superfund Division of EPA Region 5.

2. This Order pertains to property located in the Lower West Side (Pilsen) area of Chicago, Cook County, Illinois: specifically, an approximately 25.2-acre semi-rectangular residential area bound to the north by West 18th Place, to the east by an alley halfway between South Allport Street and South Racine Avenue, to the south by West 21st Street, and to the west by South Loomis Street. This property is described throughout this Order as the "Pilsen Soil Operable Unit 2 Residential Site" or the "Site." See Appendix A (showing Site location and boundaries). This Order requires Respondent to conduct removal actions described herein to abate an imminent and substantial endangerment to the public health or welfare or the environment that may be presented by the actual or threatened release of hazardous substances at or from the Site.

3. EPA has notified the State of Illinois (the "State") of this action pursuant to Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

II. PARTIES BOUND

4. This Order applies to and is binding upon the Respondent and its heirs, successors, and assigns. Any change in ownership or control of the Site or change in the corporate or partnership status of the Respondent, including, but not limited to, any transfer of assets or real or personal property, shall not alter Respondent's responsibilities under this Order.

5. Respondent is liable for implementing all activities required by this Order.

6. Respondent shall provide a copy of this Order to each contractor hired to perform the Work required by this Order and to each person representing the Respondent with respect to the Site or the Work, and shall condition all contracts entered into hereunder upon performance of the Work in conformity with the terms of this Order. Respondent or its contractors shall provide written notice of the Order to all subcontractors hired to perform any portion of the Work required by this Order. Respondent shall nonetheless be responsible for ensuring that its contractors and subcontractors perform the Work in accordance with the terms of this Order.

III. DEFINITIONS

7. Unless otherwise expressly provided in this Order, terms used in this Order that are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning assigned to them in CERCLA or in such regulations. Whenever terms listed below are used in

this Order or in appendices to or documents incorporated by reference into this Order, the following definitions shall apply:

"Action Memorandum" shall mean the EPA Action Memorandum relating to the Site signed on August 3, 2015 by the Director of the Superfund Division of EPA Region 5 and all attachments thereto. The "Action Memorandum" is attached as Appendix B.

"Affected Property" shall mean all real property at the Site and any other real property where EPA determines, at any time, that access or land, water, or other resource use restrictions are needed to implement the removal action, including, but not limited to, the residential properties (with corresponding addresses) depicted on Appendix C.

"CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §§ 9601-9675.

"Day" or "day" shall mean a calendar day. In computing any period of time under this Order, where the last day would fall on a Saturday, Sunday, or federal or State holiday, the period shall run until the close of business of the next working day.

"Effective Date" shall mean the effective date of this Order as provided in Section VIII.

"EPA" shall mean the United States Environmental Protection Agency and its successor departments, agencies, or instrumentalities.

"EPA Hazardous Substance Superfund" shall mean the Hazardous Substance Superfund established by the Internal Revenue Code, 26 U.S.C. § 9507.

"Interest" shall mean interest at the rate specified for interest on investments of the EPA Hazardous Substance Superfund established by 26 U.S.C. § 9507, compounded annually on October 1 of each year, in accordance with 42 U.S.C. § 9607(a). The applicable rate of interest shall be the rate in effect at the time the interest accrues. The rate of interest is subject to change on October 1 of each year. Rates are available online at https://www.epa.gov/superfund/superfund-interest-rates.

"National Contingency Plan" or "NCP" shall mean the National Oil and Hazardous Substances Pollution Contingency Plan promulgated pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, codified at 40 C.F.R. Part 300, and any amendments thereto.

"Non-Respondent Owner" shall mean any person, other than a Respondent, that owns or controls any Affected Property, including the current owners (as of the Effective Date) of the residential properties depicted on Appendix C. The phrase "Non-Respondent Owner's Affected Property" means Affected Property owned or controlled by Non-Respondent Owner.

"Order" shall mean this Unilateral Administrative Order and all appendices attached hereto. In the event of conflict between this Order and any appendix, this Order shall control.

"Paragraph" shall mean a portion of this Order identified by an Arabic numeral or an upper or lower case letter.

"Parties" shall mean EPA and Respondent.

"RCRA" shall mean the Resource Conservation and Recovery Act, also known as the Solid Waste Disposal Act, 42 U.S.C. §§ 6901-6992.

"Respondent" shall mean H. Kramer & Co. (H. Kramer), a company doing business in the State of Illinois.

"Response Costs" shall mean all costs, including, but not limited to, direct and indirect costs, that the United States incurs in monitoring and supervising Respondent's performance of the Work to determine whether such performance is consistent with the requirements of this Order, including costs incurred in reviewing deliverables submitted pursuant to this Order, as well as costs incurred in overseeing implementation of this Order, including, but not limited to, payroll costs, contractor costs, travel costs, and laboratory costs.

"Section" shall mean a portion of this Order identified by a Roman numeral.

"Site" shall mean the Pilsen Soil Operable Unit 2 Superfund Site, encompassing approximately 25.2 acres. The Site is located in the Lower West Side (Pilsen) area of Chicago. It is a semi-rectangular residential area bound to the north by West 18th Place, to the east by an alley halfway between South Allport Street and South Racine Avenue, to the south by West 21st Street, and to the west by South Loomis Street. See Appendix A (showing Site location and boundaries).

"State" shall mean the State of Illinois.

"Transfer" shall mean to sell, assign, convey, lease, mortgage, or grant a security interest in, or where used as a noun, a sale, assignment, conveyance, or other disposition of any interest by operation of law or otherwise.

"United States" shall mean the United States of America and each department, agency, and instrumentality of the United States, including EPA.

"Waste Material" shall mean (a) any "hazardous substance" under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); (b) any pollutant or contaminant under Section 101(33) of CERCLA, 42 U.S.C. § 9601(33); and (c) any "solid waste" under Section 1004(27) of RCRA, 42 U.S.C. § 6903(27).

"Work" shall mean all activities Respondent is required to perform under this Order, except those required by Section XV (Retention of Records).

IV. FINDINGS OF FACT

8. The Site is an approximately 25.2-acre semi-rectangular residential area bound to the north by West 18th Place, to the east by an alley halfway between South Allport Street and South Racine Avenue, to the south by West 21st Street, and to the west by South Loomis Street. See Appendix A (showing Site location and boundaries). The Site is comprised of all residential homes within its boundaries, including single family and multiple unit buildings. In 2010, the population within the Site was approximately 1,563. There are about 178 residential properties within the boundary of the Site; of these, approximately 121 properties have non-permanent covers in their yards (bare soil, grass, garden, gravel, etc.), with the rest of the yards having concrete or asphalt covers. See Appendix C (residential properties comprising the Site). Perez School lies within the Site, and the Benito Juarez Community Academy is about one block to the southwest. Throop Park is about a half block north, and Dvorak Park is about one block east of the Site. The Chicago Sanitary and Ship Canal is located approximately a half-mile to the south.

9. Lead, a hazardous substance under 42 U.S.C. § 9601(14) and 40 C.F.R. § 302.4, has been discharged, deposited, and came to be located in the soils at the Site. Sampling results for the Site from 2013 indicated that lead and fine-grained lead exceeded the 2014 EPA Removal Management Levels (RML) (hazard quotient [HQ] of 3) for residential soil at several locations throughout the Site for surface soil, subsurface soil, and soils in gardens and drip zones. For surface soil, average Site total lead and fine-grained lead concentrations (0-6 inches below ground surface [bgs], not including garden, drip zone, duplicate, or replicate samples) were 1,377 and 1,578 mg/kg, respectively (sample size [N] = 30). Fine-grained lead was detected in surface soil above 400 mg/kg at 24 of 24 residential properties sampled at the Site, with the highest fine grain lead concentration in surface soils at 3,500 mg/kg. As for subsurface soil, average Site total lead and fine-grained lead concentrations (6-12, 6-14, 6-18, 6-21, 12-24, and 18-24 inches bgs, not including garden, drip zone, duplicate, or replicate samples) were 1,094 and 1,282 mg/kg, respectively (N = 10). Total lead and fine-grained lead were detected in subsurface soil above 400 mg/kg at 6 of 6 residential properties (6-12, 6-14, 6-18, 6-21, 12-24, and 18-24 bgs, including duplicate samples, but not including garden samples). Average Site garden soil sampling results for total lead and fine-grained lead were 945 and 1,051 mg/kg, respectively (N=14). Average Site drip zone sampling results for total lead and fine-grained lead were 1,065 and 960 mg/kg, respectively (N=2). Additional surface soil samples were collected at the Site between March to June 2016, from 36 properties; these sampling results, when combined with the 2013 sampling results, increased the average Site total lead concentration from 1,377 mg/kg to 1,412 mg/kg.

10. Since the early 20th century, H. Kramer has owned and operated a secondary nonferrous metals facility at 1345 West 21st Street in Chicago (the "H. Kramer facility"), which is adjacent to and upwind of the Site. The H. Kramer facility specializes in manufacturing brass and bronze ingots, where a portion of the facility's production capacity is devoted to lead-containing metal alloys. The H. Kramer facility emitted and discharged heavy metals (including lead, zinc, copper, and cadmium) into and on the Site, causing concentrations of these heavy metals to be elevated in surface soils at the Site and the H. Kramer facility when compared to background levels. The nature of H. Kramer's processes, including the emission and discharge of lead from the H. Kramer facility, thus contributed to high levels of lead at the Site.

11. The release from the H. Kramer facility is the emission and discharge of lead into the environment (i.e. the residential soils at the Site), and such release has caused the disposal of lead at the Site. The threat of release from the Site is the off-site migration of lead from residential soils contaminated by lead, as described above, into the surrounding neighborhood. Off-site migration occurs when contaminated soils escape or leach off-site through wind and rain runoff and through present use (such as people walking, driving vehicles, or working or playing in the Site). In 2010, approximately 1,563 people lived within the boundaries of the Site, and the residential yards have high accessibility to sensitive populations including young children and pregnant women. The Perez School lies within the Site, and the Benito Juarez Community Academy is about one block southwest. Throop Park is about a half a block north of the Site, and Dvorak Park is about one block east.

12. A risk assessment conducted by EPA concluded that the soil concentrations of lead at the Site are at an unacceptable risk level to the residents in the Pilsen neighborhood.

13. H. Kramer is a corporation doing business in Illinois. H. Kramer is, and has been since the early 20th century, the owner and/or operator of the H. Kramer facility. H. Kramer therefore is the current owner and/or operator of the H. Kramer facility, from which there has been a release of hazardous substances to the Site. H. Kramer was also the owner and/or operator of the H. Kramer facility, from which there has been a release of hazardous substances to the Site, at the time of disposal of such hazardous substances. In addition, H. Kramer generated, and therefore arranged for disposal, of the hazardous substances found at the Site.

14. EPA issued a General Notice of Potential Liability Letter to H. Kramer on June 19, 2015.

15. In the Action Memorandum dated August 3, 2015, the Director of the Superfund Division of EPA Region 5 determined that, given the Site conditions, the nature of the hazardous substance on Site, and the potential exposure pathways to on-Site and nearby populations described in Sections II and III of the Action Memorandum, actual or threatened release of hazardous substances from the Site may present an imminent and substantial endangerment to public health, welfare, or the environment.

16. EPA and H. Kramer entered into an Administrative Settlement Agreement and Order on Consent for Removal Action (CERCLA Docket No. V-W-16-C-001) on December 1, 2015 (the "December 2015 Settlement"). Under the December 2015 Settlement, EPA and H. Kramer agreed to coordinate work to obtain access agreements to residential properties within the Site which EPA sampled in 2013, and whose concentrations of lead in surface soils exceeded the residential EPA RML of 400 mg/kg. EPA and H. Kramer also agreed to coordinate work to obtain access agreements to residential properties within the Site which had not been sampled by EPA in 2013. All access agreements obtained pursuant to the December 2015 Settlement allowed for soil sampling of Site properties and subsequent remediation of surface soils where lead is detected at concentrations greater than 400 mg/kg. According to the December 2015 Settlement, the resulting soil analytical data would then be used to develop a Remediation Plan for Site properties where lead is detected at concentrations greater than 400 mg/kg.

17. In or around March to June 2016, with EPA oversight, and pursuant to the December 2015 Settlement, H. Kramer collected and analyzed surface soil samples at the residential properties not sampled by EPA in 2013.

V. CONCLUSIONS OF LAW AND DETERMINATIONS

18. Based on the Findings of Fact set forth above, and the administrative record, EPA has determined that:

a. The Pilsen Soil Operable Unit 2 Superfund Site is a "facility" as defined by Section 101(9) of CERCLA, 42 U.S.C. § 9601(9). In addition, the H. Kramer facility is a "facility" as defined in Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).

b. Respondent is a "person" as defined by Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).

c. Respondent is a liable party under one or more provisions of Section 107(a) of CERCLA, 42 U.S.C. § 9607(a).

(1) Respondent is the "owner" and/or "operator" of a facility from which there has been a release of hazardous substances to the Site, as defined by Section 101(20) of CERCLA, 42 U.S.C. § 9601(20), and within the meaning of Section 107(a)(1) of CERCLA, 42 U.S.C. § 9607(a)(1).

(2) Respondent was the "owner" and/or "operator" of a facility, from which there has been a release of hazardous substances to the Site, at the time of disposal of such hazardous substances, as defined by Section 101(20) of CERCLA, 42 U.S.C. § 9601(20), and within the meaning of Section 107(a)(2) of CERCLA, 42 U.S.C. § 9607(a)(2).

(3) Respondent arranged for disposal or treatment, or arranged with a transporter for transport for disposal or treatment, of hazardous substances at a facility, within the meaning of Section 107(a)(3) of CERCLA, 42 U.S.C. § 9607(a)(3).

d. The contamination found at the Site, as identified in the Findings of Fact above, includes a "hazardous substance" as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

e. The conditions described in the Findings of Fact above constitute an actual and/or threatened "release" of a hazardous substance from each facility referenced in Paragraph 18.a, as defined by Section 101(22) of CERCLA, 42 U.S.C.§ 9601(22).

f. The conditions at the Site may constitute a threat to public health or welfare or the environment, based on the factors set forth in Section 300.415(b)(2) of the NCP. These factors include, but are not limited to, the following:

(1) actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances; this factor is present at the Site due to the existence of lead – a "hazardous substance" by definition under Section 101(14) of CERCLA, 42 U.S.C.

§ 9601(14) – in Site surface soils, with average Site surface soil fine-grained lead concentrations at 1,578 mg/kg (N = 30), and average Site surface soil total lead concentrations at 1,412 mg/kg (based on the 2013 and 2016 sampling results), far in excess of the residential EPA RML of 400 mg/kg; fine-grained lead at concentrations exceeding the residential EPA RML in every surface soil sampling location; a population of around 1,563 people living, walking, working, and playing on the contaminated surface soils in the Site, with the high accessibility of residential yards to sensitive populations such as young children and pregnant women, and schools and parks within or adjacent to the Site; and the EPA's risk assessment concluding that the soil concentrations of lead at the Site are at an unacceptable risk level to the residents accessing the Site.

(2) high levels of hazardous substances in soils largely at or near the surface, that may migrate; this factor is present at the Site due to the existence of high levels of lead, a hazardous substance, in Site surface soils, with average Site surface soil fine-grained lead concentrations at 1,578 mg/kg (N = 30), and average Site surface soil total lead concentrations at 1,412 mg/kg (based on the 2013 and 2016 sampling results), both far in excess of the residential EPA RML of 400 mg/kg; fine-grained lead detected in surface soil above the residential EPA RML at every residential property sampled in 2013, with fine-grained lead being a particular danger as the smaller particles can be more easily disturbed and made airborne, resulting in a higher incidence of exposure to residents; and the presence of hazardous substances near the surface allowing for their migration from residential yards via wind, rain, or manual dispersion.

(3) weather conditions that may cause hazardous substances to migrate or be released; this factor is present at the Site due to the existence of substantial precipitation in Cook County, Illinois (with average total annual precipitation of 38.65 inches), and temperatures in Cook County normally below freezing during the winter, with regular snowfall (average seasonal snowfall of 32.6 inches); wide variation in average temperatures in Cook County (average temperatures in winter at 25.1° F, with daily minimum temperatures at 17.3° F; average temperatures in summer at 71.7° F, with daily maximum temperatures at 81.7° F); average wind speeds at about 10.7 miles per hour (according to the National Weather Service); with each of these weather conditions causing water, wind, and freeze-thaw erosion of the Site's lead contaminated surface soil, which may then migrate off-Site via wind and runoff to other areas in Pilsen and Chicago.

(4) the unavailability of other appropriate federal or state response mechanisms to respond to the release; this factor supports the actions required by this Order at the Site because the State of Illinois does not have the financial resources to eliminate this threat;

g. The conditions described in the Findings of Fact above may constitute an imminent and substantial endangerment to the public health or welfare or the environment because of an actual or threatened release of a hazardous substance from the facilities (referenced in Paragraph 18.a) within the meaning of Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

h. The removal actions required by this Order are necessary to protect the public health, welfare, or the environment.

VI. ORDER

19. Based upon the Findings of Fact, Conclusions of Law and Determinations set forth above, and the administrative record, Respondent is hereby ordered to comply with all provisions of this Order and any modifications to this Order, including all appendices to this Order and all documents incorporated by reference into this Order.

VII. OPPORTUNITY TO CONFER

20. Within 5 days after this Order is signed by the Director of the Superfund Division of EPA Region 5, Respondent may, in writing, request a conference with EPA to discuss this Order, including its applicability, the factual findings and the determinations upon which it is based, the appropriateness of any actions Respondent is ordered to take, or any other relevant and material issues or contentions that Respondent may have regarding this Order.

21. Respondent may appear in person or by an attorney or other representative at the conference. Any such conference shall be held at least 5 days after the conference is requested. Respondent may also submit written comments or statements of position on any matter pertinent to this Order no later than 5 days after the conference or within 10 days after this Order is signed if Respondent does not request a conference. This conference is not an evidentiary hearing, does not constitute a proceeding to challenge this Order, and does not give Respondent a right to seek review of this Order. Any request for a conference or written comments or statements should be submitted to:

Robert M. Peachey (C-14J)
Office of Regional Counsel
U.S. Environmental Protection Agency, Region 5
77 West Jackson Boulevard
Chicago, Illinois 60604
(312) 353.4510
peachey.robert@epa.gov

VIII. EFFECTIVE DATE

22. This Order shall be effective 5 days after the Order is signed by the Director of the Superfund Division of EPA Region 5 unless a conference is requested or written materials are submitted in accordance with Section VII (Opportunity to Confer). If a conference is requested or written materials are submitted, this Order shall be effective on the later of the 10th day after the day of the conference, or the 10th day after written materials, if any, are submitted, unless EPA determines that the Order should be modified based on the conference or written materials. In such event, EPA shall notify Respondent, within the 10 day period, that EPA intends to modify the Order. The modified Order shall be effective 5 days after it is signed by the Director of the Superfund Division of EPA Region 5.

IX. NOTICE OF INTENT TO COMPLY

23. On or before the Effective Date, Respondent shall notify EPA in writing of Respondent's irrevocable intent to comply with this Order. Such written notice shall be sent to

EPA as provided in Paragraph 21. Respondent's written notice shall describe, using facts that exist on or prior to the Effective Date, any "sufficient cause" defense asserted by such Respondent under Sections 106(b) and 107(c)(3) of CERCLA, 42 U.S.C. §§ 9606(b) and 9607(c)(3). The absence of a response by EPA to the notice required by this Paragraph shall not be deemed to be acceptance of any of Respondent's assertions. Failure of Respondent to provide such notice of intent to comply within this time period shall, as of the Effective Date, be treated as a violation of this Order by Respondent.

X. DESIGNATION OF CONTRACTOR, PROJECT COORDINATOR, AND ON-SCENE COORDINATOR

24. **Selection of Contractors, Personnel.** All Work performed under this Order shall be under the direction and supervision of qualified personnel. Within 30 days after the Effective Date, and before the Work outlined below begins, Respondent shall notify EPA in writing of the names, titles, and qualifications of the personnel, including contractors, subcontractors, consultants, and laboratories to be used in carrying out such Work. If, after the commencement of the Work, Respondent retains additional contractor(s) or subcontractor(s), Respondent shall notify EPA of the name(s) and qualification(s) of such contractor(s) or subcontractor(s) retained to perform the Work at least 5 days prior to commencement of Work by such additional contractor(s) or subcontractor(s). EPA retains the right, at any time, to disapprove of any or all of the contractors and/or subcontractors retained by Respondent. If EPA disapproves of a selected contractor or subcontractor, Respondent shall retain a different contractor or subcontractor and shall notify EPA of that contractor's or subcontractor's name and qualifications within 5 days after EPA's disapproval. With respect to any proposed contractor, Respondent shall demonstrate that the proposed contractor demonstrates compliance with ASQ/ANSI E4:2014 "Quality management systems for environmental information and technology programs – Requirements with guidance for use" (American Society for Quality, February 2014), by submitting a copy of the proposed contractor's Quality Management Plan (QMP). The QMP should be prepared in accordance with "EPA Requirements for Quality Management Plans (QA/R-2)" (EPA/240/B-01/002, Reissued May 2006) or equivalent documentation as determined by EPA. The qualifications of the persons undertaking the Work for Respondent shall be subject to EPA's review for verification that such persons meet minimum technical background and experience requirements.

25. Within 5 days after the Effective Date, Respondent shall designate a Project Coordinator who shall be responsible for administration of the Work required by this Order and shall submit to EPA the designated Project Coordinator's name, address, telephone number, email address, and qualifications. To the greatest extent possible, the Project Coordinator shall be present on Site or readily available during the Work. EPA retains the right to disapprove of the designated Project Coordinator. If EPA disapproves of the designated Project Coordinator, Respondent shall retain a different Project Coordinator and shall notify EPA of that person's name, address, telephone number, email address, and qualifications within 5 days following EPA's disapproval. Respondent shall have the right to change its Project Coordinator, subject to EPA's right to disapprove. Respondent shall notify EPA 5 days before such a change is made. The initial notification may be made orally, but shall be promptly followed by a written notification. Communications between Respondent and EPA, and all documents concerning the activities performed pursuant to this Order, shall be directed to the Project Coordinator. Receipt

by Respondent's Project Coordinator of any notice or communication from EPA relating to this Order shall constitute receipt by Respondent.

26. EPA has designated Ramon C. Mendoza of the Emergency Response Branch #2 of EPA Region 5 as its On-Scene Coordinator (OSC). EPA will notify Respondent of a change of its designated OSC. Communications between Respondent and EPA, and all documents concerning the activities performed pursuant to this Order, shall be directed to the OSC in accordance with Paragraph 31.a(1).

27. The OSC shall be responsible for overseeing Respondent's implementation of this Order. The OSC shall have the authority vested in a Remedial Project Manager (RPM) and an OSC by the NCP, including the authority to halt, conduct, or direct any Work required by this Order, or to direct any other response action when he determines that conditions at the Site constitute an emergency situation or may present a threat to public health or welfare or the environment. Absence of the OSC from the Site shall not be cause for stoppage or delay of Work.

XI. WORK TO BE PERFORMED

28. Respondent shall perform, at a minimum, all actions necessary to implement the Action Memorandum at the residential properties (with corresponding addresses) depicted on Appendix C. The actions to be implemented generally include, but are not limited to, the following:

a. Develop and implement a Site health and safety plan, sampling plan, site security plan, air monitoring plan, and work plan to perform the work described in Paragraphs 28.b and 28.c, as appropriate;

b. For the residential properties depicted on Appendix C that were neither sampled by EPA in 2013, nor by H. Kramer in 2016 (identified on Appendix C as "green space, not yet sampled" and as "refused access to sample"): develop a work plan for the lead-contaminated soil assessment of these Site properties, including obtaining property access and sampling of the properties to determine if their yards exceed the EPA RML for lead of 400 mg/kg in surface soil;

c. For the residential properties depicted on Appendix C whose yards exceed the EPA RML for lead of 400 mg/kg in surface soil (identified in Appendix C as "greater than 400 ppm lead"), and for any residential properties sampled pursuant to Paragraph 28.b of this section whose yards exceed the EPA RML for lead of 400 mg/kg in surface soil:

(1) Conduct land surveying to the extent necessary to establish a grid system to locate all property boundaries, special features (pipes, storage tanks, etc.), and sample locations, and obtain any additional property access necessary to conduct the removal action;

(2) Conduct extent of contamination sampling on-site to further delineate the extent of lead contaminated surface soil in each residential yard;

(3) Excavate contaminated soil with concentrations above the EPA residential soil RML of 400 mg/kg for lead. Soils with lead above the EPA residential soil RML must be removed down to a maximum depth of 24 inches, to eliminate any direct contact threat and to ensure unrestricted exposure by Pilsen residents to Site soils. Excavated material that fails toxicity characteristic leaching procedure (TCLP) for lead may be treated with a fixation agent prior to disposal;

(4) Remove, transport, and dispose of all characterized or identified hazardous substances, pollutants, wastes, or contaminants at a RCRA/CERCLA approved disposal facility in accordance with the EPA Off-Site Rule, 40 C.F.R. § 300.440;

(5) Restore all excavated areas to their original condition prior to excavation; and

(6) Take any necessary response actions to address any Site related release or threatened release of a hazardous substance, pollutant, or contaminant that EPA determines may pose an imminent and substantial endangerment to public health or the environment.

29. For any regulation or guidance referenced in the Order, the reference will be read to include any subsequent modification, amendment, or replacement of such regulation or guidance. Such modifications, amendments, or replacements apply to the Work only after Respondent receives notification from EPA of the modification, amendment, or replacement.

30. **Work Plan and Implementation.**

a. Within 10 days after the Effective Date, in accordance with Paragraph 31 (Submission of Deliverables), Respondent shall submit to EPA for review and approval a draft work plan for performing the removal actions (the "Removal Work Plan") generally described in Paragraph 28 above. The draft Removal Work Plan shall provide a description of, and an expeditious schedule for, the Work required by this Order.

b. EPA may approve, disapprove, require revisions to, or modify the draft Removal Work Plan in whole or in part. If EPA requires revisions, Respondent shall submit a revised draft Removal Work Plan within 5 days after receipt of EPA's notification of the required revisions. Respondent shall implement the Removal Work Plan as approved in writing by EPA in accordance with the schedule approved by EPA. Once approved, or approved with modifications, the Removal Work Plan, the schedule, and any subsequent modifications shall be incorporated into and become fully enforceable under this Order.

c. Upon approval or approval with modifications of the Removal Work Plan Respondent shall commence implementation of the Work in accordance with the schedule included therein. Respondent shall not commence or perform any Work except in conformance with the terms of this Order. Respondent shall notify EPA at least 48 hours prior to performing any Work on-Site pursuant to the EPA-approved Removal Work Plan.

d. Unless otherwise provided in this Order, any additional deliverables that require EPA approval under the Removal Work Plan shall be reviewed and approved by EPA in accordance with this Paragraph.

e. Any non-compliance with any EPA-approved plans, reports, specifications, schedules, or other deliverables shall be considered a violation of the requirements of this Order. Determinations of non-compliance shall be made by EPA. Approval of the Removal Work Plan shall not limit EPA's authority under the terms of this Order to require Respondent to conduct activities consistent with this Order to accomplish the Work outlined in this Section.

31. **Submission of Deliverables**

a. **General Requirements for Deliverables.**

(1) Except as otherwise provided in this Order, Respondent shall direct all submissions required by this Order to the OSC at Ramon C. Mendoza (SE-5J), Superfund Division, U.S. EPA, Region 5, 77 West Jackson Boulevard, Chicago, Illinois 60604, (312) 886.4314, mendoza.ramon@epa.gov. Respondent shall submit all deliverables required by this Order or any approved work plan to EPA in accordance with the schedule set forth in such plan.

(2) Respondent shall submit all deliverables in electronic form. Technical specifications for sampling and monitoring data and spatial data are addressed in Paragraph 31.b. All other deliverables shall be submitted to EPA in the form specified by the OSC. If any deliverable includes maps, drawings, or other exhibits that are larger than 8.5 x 11 inches, Respondent shall also provide EPA with paper copies of such exhibits.

b. **Technical Specifications for Deliverables.**

(1) Sampling and monitoring data should be submitted in standard Regional EDD format. Other delivery methods may be allowed if electronic direct submission presents a significant burden or as technology changes.

(2) Spatial data, including spatially-referenced data and geospatial data, should be submitted: (a) in the ESRI File Geodatabase format; and (b) as unprojected geographic coordinates in decimal degree format using North American Datum 1983 (NAD83) or World Geodetic System 1984 (WGS84) as the datum. If applicable, submissions should include the collection method(s). Projected coordinates may optionally be included but must be documented. Spatial data should be accompanied by metadata, and such metadata should be compliant with the Federal Geographic Data Committee (FGDC) Content Standard for Digital Geospatial Metadata and its EPA profile, the EPA Geospatial Metadata Technical Specification.

An add-on metadata editor for ESRI software, the EPA Metadata Editor (EME), complies with these FGDC and EPA metadata requirements and is available at https://edg.epa.gov/EME/.

(3) Each file must include an attribute name for each site unit or sub-unit submitted. Consult https://www.epa.gov/geospatial/geospatial-policies-and-standards for any further available guidance on attribute identification and naming.

(4) Spatial data submitted by Respondent does not, and is not intended to, define the boundaries of the Site.

32. **Sampling and Analysis Plan.** Within 10 days after the Effective Date, Respondent shall submit a Sampling and Analysis Plan to EPA for review and approval. This plan shall consist of a Field Sampling Plan (FSP) and a Quality Assurance Project Plan (QAPP) that is consistent with the Removal Work Plan, the NCP and applicable guidance documents, including, but not limited to, "Guidance for Quality Assurance Project Plans (QA/G-5)" EPA/240/R-02/009 (December 2002), "EPA Requirements for Quality Assurance Project Plans (QA/R-5)" EPA 240/B-01/003 (March 2001, reissued May 2006), and "Uniform Federal Policy for Quality Assurance Project Plans," Parts 1-3 EPA/505/B-04/900A-900C (March 2005). Upon its approval by EPA, the Sampling and Analysis Plan shall be incorporated into and become enforceable under this Order.

33. **Health and Safety Plan.** Within 10 days after the Effective Date, Respondent shall submit for EPA review and comment a Health and Safety Plan that ensures the protection of on-site workers and the public during performance of on-site Work under this Order. This plan shall be prepared in accordance with "OSWER Integrated Health and Safety Program Operating Practices for OSWER Field Activities," Pub. 9285.0-OlC (Nov. 2002), available on the NSCEP database at https://www.epa.gov/nscep, and "EPA's Emergency Responder Health and Safety Manual," OSWER Directive 9285.3-12 (July 2005 and updates), available at https://www.epaosc.org/_HealthSafetyManual/manual-index.htm. In addition, the plan shall comply with all currently applicable Occupational Safety and Health Administration (OSHA) regulations found at 29 C.F.R. Part 1910. If EPA determines that it is appropriate, the plan shall also include contingency planning. Respondent shall incorporate all changes to the plan recommended by EPA and shall implement the plan during the pendency of the removal actions.

34. **Community Involvement Plan.** EPA will prepare a community involvement plan in accordance with EPA guidance and the NCP. If requested by EPA, Respondent shall participate in community involvement activities, including participation in (a) the preparation of information regarding the Work for dissemination to the public, with consideration given to including mass media and/or Internet notification, and (b) public meetings that may be held or sponsored by EPA to explain activities at or relating to the Site. Respondent's support of EPA's community involvement activities may include providing online access to initial submissions and updates of deliverables to (a) any community advisory groups, (b) any technical assistance grant recipients and their advisors, and (c) other entities to provide them with a reasonable opportunity for review and comment. All community involvement activities conducted by Respondent at EPA's request are subject to EPA's oversight. Upon EPA's request, Respondent shall establish a community information repository at or near the Site to house one copy of the administrative record.

35. **Progress Reports**. Respondent shall submit a written progress report to EPA concerning actions undertaken pursuant to this Order on a monthly basis, or as otherwise requested by EPA, from the date of receipt of EPA's approval of the Removal Work Plan until issuance of Notice of Completion of Work pursuant to Section XXVI, unless otherwise directed in writing by the OSC. These reports shall describe all significant developments during the preceding period, including the actions performed and any problems encountered, analytical data received during the reporting period, and the developments anticipated during the next reporting period, including a schedule of actions to be performed, anticipated problems, and planned resolutions of past or anticipated problems.

36. **Final Report**. Within 30 days after completion of all Work required by this Order, with the exception of any continuing obligations required by this Order, including reimbursement of Response Costs and Record Retention, Respondent shall submit for EPA review and approval a final report summarizing the actions taken to comply with this Order. EPA will review and approve the final report in accordance with Section XXVI (Notice of Completion of Work). The final report shall conform, at a minimum, with the requirements set forth in Section 300.165 of the NCP, "OSC Reports." The final report shall include a good faith estimate of total costs or a statement of actual costs incurred in complying with the Order, a listing of quantities and types of materials removed off-Site or handled on-Site, a discussion of removal and disposal options considered for those materials, a listing of the ultimate destination(s) of those materials, a presentation of the analytical results of all sampling and analyses performed, and accompanying appendices containing all relevant documentation generated during the removal actions (e.g., manifests, invoices, bills, contracts, and permits). The final report shall also include the following certification signed by a responsible corporate official of the Respondent or Respondent's Project Coordinator: "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

37. **Off-Site Shipments**.

a. Respondent may ship hazardous substances, pollutants, and contaminants from the Site to an off-Site facility only if it complies with Section 121(d)(3) of CERCLA, 42 U.S.C. § 9621(d)(3), and 40 C.F.R. § 300.440. Respondent will be deemed to be in compliance with CERCLA § 121(d)(3) and 40 C.F.R. § 300.440 regarding a shipment if Respondent obtain a prior determination from EPA that the proposed receiving facility for such shipment is acceptable under the criteria of 40 C.F.R. § 300.440(b).

b. Respondent may ship Waste Material from the Site to an out-of-state waste management facility only if, prior to any shipment, it provides written notice to the appropriate state environmental official in the receiving facility's state and to the OSC. This notice requirement will not apply to any off-Site shipments when the total quantity of all such

shipments will not exceed ten cubic yards. The written notice must include the following information, if available: (1) the name and location of the receiving facility; (2) the type and quantity of Waste Material to be shipped; (3) the schedule for the shipment; and (4) the method of transportation. Respondent shall also notify the state environmental official referenced above and the OSC of any major changes in the shipment plan, such as a decision to ship the Waste Material to a different out-of-state facility. Respondent shall provide the notice after the award of the contract for the removal action and before the Waste Material is shipped.

c. Respondent may ship Investigation Derived Waste (IDW) from the Site to an off-Site facility only if it complies with Section 121(d)(3) of CERCLA, 42 U.S.C. § 9621(d)(3), 40 C.F.R. § 300.440, EPA's "Guide to Management of Investigation Derived Waste," OSWER 9345.3-03FS (Jan. 1992), and any IDW-specific requirements contained in the Action Memorandum. Wastes shipped off-Site to a laboratory for characterization, and RCRA hazardous wastes that meet the requirements for an exemption from RCRA under 40 C.F.R. § 261.4(e) shipped off-Site for treatability studies, are not subject to 40 C.F.R. § 300.440.

XII. QUALITY ASSURANCE, SAMPLING, AND DATA ANALYSIS

38. Respondent shall use quality assurance, quality control, and other technical activities and chain of custody procedures for all samples consistent with "EPA Requirements for Quality Assurance Project Plans (QA/R5)," EPA/240/B-01/003 (March 2001, reissued May 2006), "Guidance for Quality Assurance Project Plans (QA/G-5)," EPA/240/R-02/009 (December 2002), and "Uniform Federal Policy for Quality Assurance Project Plans," Parts 1-3, EPA/505/B-04/900A-900C (March 2005).

39. **Access to Laboratories.**

a. Respondent shall ensure that EPA personnel and its authorized representatives are allowed access at reasonable times to all laboratories utilized by Respondent pursuant to this Order. In addition, Respondent shall ensure that such laboratories shall analyze all samples submitted by EPA pursuant to the QAPP for quality assurance, quality control, and technical activities that will satisfy the stated performance criteria as specified in the QAPP and that sampling and field activities are conducted in accordance the Agency's "EPA QA Field Activities Procedure," CIO 2105-P-02.1 (9/23/2014) available at https://www.epa.gov/irmpoli8/epa-qa-field-activities-procedures. Respondent shall ensure that the laboratories it utilizes for the analysis of samples taken pursuant to this Order meet the competency requirements set forth in EPA's "Policy to Assure Competency of Laboratories, Field Sampling, and Other Organizations Generating Environmental Measurement Data under Agency-Funded Acquisitions" available at https://www.epa.gov/measurements/documents-about-measurement-competency-under-acquisition-agreements and that the laboratories perform all analyses using EPA-accepted methods. Accepted EPA methods consist of, but are not limited to, methods that are documented in the EPA's Contract Laboratory Program (https://www.epa.gov/clp), SW 846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (https://www.epa.gov/hw-sw846), "Standard Methods for the Examination of Water and Wastewater" (http://www.standardmethods.org/), 40 C.F.R. Part 136, "Air Toxics - Monitoring Methods" (https://www3.epa.gov/ttnamti1/airtox.html)." However, upon approval by EPA, Respondent may use other appropriate analytical method(s), as long as (i) quality assurance/quality control

(QA/QC) criteria are contained in the method(s) and the method(s) are included in the QAPP, (ii) the analytical method(s) are at least as stringent as the methods listed above, and (iii) the method(s) have been approved for use by a nationally recognized organization responsible for verification and publication of analytical methods, e.g., EPA, ASTM, NIOSH, OSHA, etc. Respondent shall ensure that all laboratories it uses for analysis of samples taken pursuant to this Order have a documented Quality System that complies with ASQ/ANSI E4:2014 "Quality management systems for environmental information and technology programs – Requirements with guidance for use" (American Society for Quality, February 2014), and "EPA Requirements for Quality Management Plans (QA/R-2)" EPA/240/B-01/002 (March 2001, reissued May 2006), or equivalent documentation as determined by EPA. EPA may consider Environmental Response Laboratory Network (ERLN) laboratories, laboratories accredited under the National Environmental Laboratory Accreditation Program (NELAP), or laboratories that meet International Standardization Organization (ISO 17025) standards or other nationally recognized programs as meeting the Quality System requirements. Respondent shall ensure that all field methodologies utilized in collecting samples for subsequent analysis pursuant to this Order are conducted in accordance with the procedures set forth in the QAPP approved by EPA.

b. Upon request, Respondent shall provide split or duplicate samples to EPA or its authorized representatives. Respondent shall notify EPA not less than 7 days in advance of any sample collection activity. In addition, EPA shall have the right to take any additional samples that EPA deems necessary. Upon request, EPA shall provide to Respondent split or duplicate samples of any samples it takes as part of EPA's oversight of Respondent's implementation of the Work.

c. Respondent shall submit to EPA, in the next monthly progress report as described in Paragraph 35 (Progress Reports), copies of the results of all sampling and/or tests or other data obtained or generated by or on behalf of Respondent with respect to the Site and/or the implementation of this Order.

XIII. PROPERTY REQUIREMENTS

40. **Agreements Regarding Access and Non-Interference**. Respondent shall, with respect to any Non-Respondent Owner's Affected Property, use best efforts to secure from such Non-Respondent Owner an agreement, enforceable by Respondent and EPA, providing that such Non-Respondent Owner provide EPA, Respondent, and their representatives, contractors, and subcontractors with access at all reasonable times to such Affected Property to conduct any activity regarding the Order, including those activities listed in Paragraph 40.a (Access Requirements).

a. **Access Requirements**. The following is a list of activities for which access is required regarding the Affected Property:

(1) Monitoring the Work;

(2) Verifying any data or information submitted to EPA;

(3) Conducting investigations regarding contamination at or near the Site;

(4) Obtaining samples;

(5) Assessing the need for, planning, implementing, or monitoring response actions;

(6) Assessing implementation of quality assurance and quality control practices as defined in the approved quality assurance quality control plan;

(7) Implementing the Work pursuant to the conditions set forth in Section XIX (Enforcement/Work Takeover);

(8) Inspecting and copying records, operating logs, contracts, or other documents maintained or generated by Respondent or its agents, consistent with Section XIV (Access to Information);

(9) Assessing Respondent's compliance with the Order.

41. **Best Efforts**. As used in this Section, "best efforts" means the efforts that a reasonable person in the position of Respondent would use so as to achieve the goal in a timely manner, including the cost of employing professional assistance and the payment of reasonable sums of money to secure access and/or use restriction agreements, as required by this Section. If, within 30 days after the Effective Date, Respondent is unable to accomplish what is required through "best efforts" it shall notify EPA, and include a description of the steps taken to comply with the requirements. If EPA deems it appropriate, it may assist Respondent or take independent action in obtaining such access and/or use restrictions. EPA reserves the right to seek payment from Respondent for all costs, including cost of attorneys' time, incurred by the United States in obtaining such access or agreements to restrict land, water, or other resource use.

42. Notwithstanding any provision of this Order, EPA retains all of its access authorities and rights, as well as all of its rights to require land, water, or other resource use restrictions, including enforcement authorities related thereto under CERCLA, RCRA, and any other applicable statute or regulations.

XIV. ACCESS TO INFORMATION

43. Respondent shall provide to EPA, upon request, copies of all records, reports, documents, and other information (including records, reports, documents, and other information in electronic form) (hereinafter referred to as "Records") within Respondent's possession or control or that of its contractors or agents relating to activities at the Site or to the implementation of this Order, including, but not limited to, sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information regarding the Work. Respondent shall also make available to EPA, for purposes of investigation, information gathering, or testimony, its employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.

44. **Privileged and Protected Claims.**

a. Respondent may assert that all or part of a Record requested by EPA is privileged or protected as provided under federal law, in lieu of providing the Record, provided Respondent complies with Paragraph 44.b, and except as provided in Paragraph 44.c.

b. If Respondent asserts a claim of privilege or protection, it shall provide EPA with the following information regarding such Record: its title; its date; the name, title, affiliation (e.g., company or firm), and address of the author, of each addressee, and of each recipient; a description of the Record's contents; and the privilege or protection asserted. If a claim of privilege or protection applies only to a portion of a Record, Respondent shall provide the Record to EPA in redacted form to mask the privileged or protected portion only. Respondent shall retain all Records that it claims to be privileged or protected until EPA has had a reasonable opportunity to dispute the privilege or protection claim and any such dispute has been resolved in Respondent's favor.

c. Respondent may make no claim of privilege or protection regarding: (1) any data regarding the Site, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, radiological, or engineering data, or the portion of any other Record that evidences conditions at or around the Site; or (2) the portion of any Record that Respondent is required to create or generate pursuant to this Order.

45. **Business Confidential Claims**. Respondent may assert that all or part of a Record provided to EPA under this Section or Section XV (Retention of Records) is business confidential to the extent permitted by and in accordance with Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and 40 C.F.R. § 2.203(b). Respondent shall segregate and clearly identify all Records or parts thereof submitted under this Order for which Respondent asserts business confidentiality claims. Records submitted to EPA determined to be confidential by EPA will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies Records when they are submitted to EPA, or if EPA has notified Respondent that the Records are not confidential under the standards of Section 104(e)(7) of CERCLA or 40 C.F.R. Part 2, Subpart B, the public may be given access to such Records without further notice to Respondent.

46. Notwithstanding any provision of this Order, EPA retains all of its information gathering and inspection authorities and rights, including enforcement actions related thereto, under CERCLA, RCRA, and any other applicable statutes or regulations.

XV. RETENTION OF RECORDS

47. During the pendency of this Order and for a minimum of 10 years after Respondent's receipt of EPA's notification pursuant to Section XXVI (Notice of Completion of Work), Respondent shall preserve and retain all non-identical copies of Records (including Records in electronic form) now in its possession or control, or that come into its possession or control, that relate in any manner to its liability under CERCLA with respect to the Site, as well as all Records that relate to the liability of any other person under CERCLA with respect to the Site. Respondent must also retain, and instruct its contractors and agents to preserve, for the

same period of time specified above, all non-identical copies of the last draft or final version of any Records (including Records in electronic form) now in its possession or control or that come into its possession or control that relate in any manner to the performance of the Work, provided, however, that Respondent (and its contractors and agents) must retain, in addition, copies of all data generated during performance of the Work and not contained in the aforementioned Records required to be retained. Each of the above record retention requirements shall apply regardless of any corporate retention policy to the contrary.

48. At the conclusion of this document retention period, Respondent shall notify EPA at least 90 days prior to the destruction of any such Records, and, upon request by EPA, and except as provided in Paragraph 44, Respondent shall deliver any such Records to EPA.

49. Within 10 days after the Effective Date, Respondent shall submit a written certification to EPA's OSC that, to the best of its knowledge and belief, after thorough inquiry, it has not altered, mutilated, discarded, destroyed, or otherwise disposed of any Records (other than identical copies) relating to its potential liability regarding the Site since notification of its potential liability by the United States, and that it has fully complied with any and all EPA requests for information regarding the Site pursuant to Sections 104(e) and 122(e) of CERCLA, 42 U.S.C. §§ 9604(e) and 9622(e), and Section 3007 of RCRA, 42 U.S.C. § 6927. If Respondent is unable to so certify, it shall submit a modified certification that explains in detail why it is unable to certify in full with regard to all Records.

XVI. COMPLIANCE WITH OTHER LAWS

50. Nothing in this Order limits Respondent's obligations to comply with the requirements of all applicable state and federal laws and regulations, except as provided in Section 121(e) of CERCLA, 42 U.S.C. § 9621(e), and 40 C.F.R. §§ 300.400(e) and 300.415(j). In accordance with 40 C.F.R. § 300.415(j), all on-site actions required pursuant to this Order shall, to the extent practicable, as determined by EPA, considering the exigencies of the situation, attain applicable or relevant and appropriate requirements (ARARs) under federal environmental or state environmental or facility siting laws. Respondent shall identify ARARs in the Removal Work Plan subject to EPA approval.

51. No local, state, or federal permit shall be required for any portion of the Work conducted entirely on-site (i.e., within the areal extent of contamination or in very close proximity to the contamination and necessary for implementation of the Work), including studies, if the action is selected and carried out in compliance with Section 121 of CERCLA, 42 U.S.C. § 9621. Where any portion of the Work that is not on-site requires a federal or state permit or approval, Respondent shall submit timely and complete applications and take all other actions necessary to obtain and to comply with all such permits or approvals. This Order is not, and shall not be construed to be, a permit issued pursuant to any federal or state statute or regulation.

XVII. EMERGENCY RESPONSE AND NOTIFICATION OF RELEASES

52. **Emergency Response.** If any event occurs during performance of the Work that causes or threatens to cause a release of any Waste Material on, at, or from the Site that either

constitutes an emergency situation or that may present an immediate threat to public health or welfare or the environment, Respondent shall immediately take all appropriate action to prevent, abate, or minimize such release or threat of release. Respondent shall take these actions in accordance with all applicable provisions of this Order, including, but not limited to, the Health and Safety Plan. Respondent shall also immediately notify the OSC or, in the event of his/her unavailability, the Regional Duty Officer in the Emergency Planning and Response Branch, EPA Region 5 (emergency 24-hour telephone number: (312) 353.2318) of the incident or Site conditions. In the event that Respondent fails to take appropriate response action as required by this Paragraph, and EPA takes such action instead, EPA reserves the right to pursue cost recovery.

53. **Release Reporting**. Upon the occurrence of any event during performance of the Work that Respondent is required to report pursuant to Section 103 of CERCLA, 42 U.S.C. § 9603, or Section 304 of the Emergency Planning and Community Right-To-Know Act (EPCRA), 42 U.S.C. § 11004, Respondent shall immediately orally notify the OSC, or, in the event of his/her unavailability, the Regional Duty Officer at in the Emergency Planning and Response Branch, EPA Region 5 (emergency 24-hour telephone number: (312) 353.2318), and the National Response Center at (800) 424-8802. This reporting requirement is in addition to, and not in lieu of, the reporting required by CERCLA § 103 or EPCRA § 304.

54. For any event covered under this Section, Respondent shall submit a written report to EPA within 7 days after the onset of such event, setting forth the action or event that occurred and the measures taken, and to be taken, to mitigate any release or threat of release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release or threat of release.

XVIII. PAYMENT OF RESPONSE COSTS

55. Upon EPA's written demand, Respondent shall pay EPA all Response Costs incurred or to be incurred in connection with this Order. On a periodic basis, EPA will send Respondent a bill requiring payment of all Response Costs incurred by the United States with respect to this Order that includes an Itemized Cost Summary, which includes direct and indirect costs incurred by EPA, its contractors, and the Department of Justice.

56. Respondent shall make all payments within 30 days after receipt of each written demand requiring payment. Payment shall be made to EPA by Fedwire Electronic Funds Transfer (EFT) to:

Federal Reserve Bank of New York
ABA = 021030004
Account = 68010727
SWIFT address = FRNYUS33
33 Liberty Street
New York NY 10045
Field Tag 4200 of the Fedwire message should read "D 68010727 Environmental Protection Agency"

and shall reference Site/Spill ID Number C5N8_02 and the EPA docket number for this action.

57. At the time of payment, Respondent shall send notice that payment has been made to Ramon C. Mendoza (SE-5J), Superfund Division, U.S. EPA, Region 5, 77 West Jackson Boulevard, Chicago, Illinois 60604, (312) 886.4314, mendoza.ramon@epa.gov, and to the EPA Cincinnati Finance Office by email at cinwd_acctsreceivable@epa.gov, or by mail to:

EPA Cincinnati Finance Office
26 W. Martin Luther King Drive
Cincinnati, Ohio 45268

Such notice shall reference Site/Spill ID Number C5N8_02 and EPA docket number for this action.

58. In the event that the payments for Response Costs are not made within 30 days after Respondent's receipt of a written demand requiring payment, Respondent shall pay Interest on the unpaid balance. The Interest on Response Costs shall begin to accrue on the date of the written demand and shall continue to accrue until the date of payment. Payments of Interest made under this Paragraph shall be in addition to such other remedies or sanctions available to the United States by virtue of Respondent's failure to make timely payments under this Section. Respondent shall make all payments required by this Paragraph in the manner described in Paragraphs 56 and 57.

XIX. ENFORCEMENT/WORK TAKEOVER

59. Any willful violation, or failure or refusal to comply with any provision of this Order may subject Respondent to civil penalties of up to $53,907 per violation per day, as provided in Section 106(b)(1) of CERCLA, 42 U.S.C. § 9606(b)(1), and the Civil Monetary Penalty Inflation Adjustment Rule, 81 Fed. Reg. 43,091, 40 C.F.R. Part 19.4. In the event of such willful violation, or failure or refusal to comply, EPA may carry out the required actions unilaterally, pursuant to Section 104 of CERCLA, 42 U.S.C. § 9604, and/or may seek judicial enforcement of this Order pursuant to Section 106 of CERCLA, 42 U.S.C. § 9606. Respondent may also be subject to punitive damages in an amount up to three times the amount of any costs incurred by the United States as a result of such failure to comply, as provided in Section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3).

XX. RESERVATIONS OF RIGHTS BY EPA

60. Nothing in this Order shall limit the power and authority of EPA or the United States to take, direct, or order all actions necessary to protect public health, welfare, or the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances, pollutants, or contaminants, or hazardous or solid waste on, at, or from the Site. Further, nothing in this Order shall prevent EPA from seeking legal or equitable relief to enforce the terms of this Order, from taking other legal or equitable action as it deems appropriate and necessary, or from requiring Respondent in the future to perform additional activities pursuant to CERCLA or any other applicable law. EPA reserves the right to bring an action against Respondent under Section 107 of CERCLA, 42 U.S.C. § 9607, for recovery of any response costs incurred by the United States related to this Order or the Site.

XXI. OTHER CLAIMS

61. By issuance of this Order, the United States and EPA assume no liability for injuries or damages to persons or property resulting from any acts or omissions of Respondent. The United States or EPA shall not be deemed a party to any contract entered into by Respondent or its directors, officers, employees, agents, successors, representatives, assigns, contractors, or consultants in carrying out actions pursuant to this Order.

62. Nothing in this Order constitutes a satisfaction of or release from any claim or cause of action against Respondent or any person not a party to this Order, for any liability such person may have under CERCLA, other statutes, or common law, including but not limited to any claims of the United States under Sections 106 and 107 of CERCLA, 42 U.S.C. §§ 9606 and 9607.

63. Nothing in this Order shall be deemed to constitute preauthorization of a claim within the meaning of Section 111(a)(2) of CERCLA, 42 U.S.C. § 9611(a)(2), or 40 C.F.R. § 300.700(d).

64. No action or decision by EPA pursuant to this Order shall give rise to any right to judicial review, except as set forth in Section 113(h) of CERCLA, 42 U.S.C. § 9613(h).

XXII. INSURANCE

65. No later than 10 days before commencing any on-site Work, Respondent shall secure, and shall maintain for the duration of this Order, commercial general liability insurance with limits of liability of $1 million per occurrence, automobile liability insurance with limits of liability of $1 million per accident, and umbrella liability insurance with limits of liability of $5 million in excess of the required commercial general liability and automobile liability limits, naming EPA as an additional insured with respect to all liability arising out of the activities performed by or on behalf of Respondent pursuant to this Order. Within the same time period, Respondent shall provide EPA with certificates of such insurance and a copy of each insurance policy. Respondent shall submit such certificates and copies of policies each year on the anniversary of the Effective Date. In addition, for the duration of the Order, Respondent shall satisfy, or shall ensure that its contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of worker's compensation insurance for all persons performing Work on behalf of Respondent in furtherance of this Order. If Respondent demonstrates by evidence satisfactory to EPA that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering some or all of the same risks but in a lesser amount, then, with respect to that contractor or subcontractor, Respondent need provide only that portion of the insurance described above that is not maintained by such contractor or subcontractor. Respondent shall ensure that all submittals to EPA under this Paragraph identify the Pilsen Soil Operable Unit 2 Residential Site, Chicago, Illinois and the EPA docket number for this action.

XXIII. MODIFICATION

66. The OSC may make modifications to any plan or schedule in writing or by oral direction. Any oral modification will be memorialized in writing by EPA within 5 days, but shall

have as its effective date the date of the OSC's oral direction. Any other requirements of this Order may be modified in writing by signature of the Director of the Superfund Division of EPA Region 5.

67. If Respondent seeks permission to deviate from any approved Work Plan or schedule, Respondent's Project Coordinator shall submit a written request to EPA for approval outlining the proposed modification and its basis. Respondent may not proceed with the requested deviation until receiving approval from the OSC pursuant to Paragraph 66.

68. No informal advice, guidance, suggestion, or comment by the OSC or other EPA representatives regarding reports, plans, specifications, schedules, or any other writing submitted by Respondent shall relieve Respondent of its obligation to obtain any formal approval required by this Order, or to comply with all requirements of this Order, unless it is formally modified.

XXIV. DELAY IN PERFORMANCE

69. Respondent shall notify EPA of any delay or anticipated delay in performing any requirement of this Order. Such notification shall be made by telephone and email to the OSC within 48 hours after Respondent first knew or should have known that a delay might occur. Respondent shall adopt all reasonable measures to avoid or minimize any such delay. Within 7 days after notifying EPA by telephone and email, Respondent shall provide to EPA written notification fully describing the nature of the delay, the anticipated duration of the delay, any justification for the delay, all actions taken or to be taken to prevent or minimize the delay or the effect of the delay, a schedule for implementation of any measures to be taken to mitigate the effect of the delay, and any reason why Respondent should not be held strictly accountable for failing to comply with any relevant requirements of this Order. Increased costs or expenses associated with implementation of the activities called for in this Order is not a justification for any delay in performance.

70. Any delay in performance of this Order that, in EPA's judgment, is not properly justified by Respondent under the terms of Paragraph 69 shall be considered a violation of this Order. Any delay in performance of this Order shall not affect Respondent's obligations to fully perform all obligations under the terms and conditions of this Order.

XXV. ADDITIONAL REMOVAL ACTIONS

71. If EPA determines that additional removal actions not included in an approved plan are necessary to protect public health, welfare, or the environment, EPA will notify Respondent of that determination and will either modify this Order or issue a new Order to address any additional removal actions.

XXVI. NOTICE OF COMPLETION OF WORK

72. When EPA determines, after EPA's review of the final report, that all Work has been fully performed in accordance with this Order, with the exception of any continuing obligations required by this Order, including reimbursement of Response Costs and Record Retention, EPA will provide written notice to Respondent. If EPA determines that any Work has not been completed in accordance with this Order, EPA will notify Respondent, provide a list of

the deficiencies, and require that Respondent modify the Work Plan, if appropriate, in order to correct such deficiencies within 15 days after receipt of the EPA notice. The modified Work Plan shall include a schedule for correcting such deficiencies. Within 15 days after receipt of written approval of the modified Work Plan, Respondent shall implement the modified and approved Work Plan and shall submit a modified Final Report in accordance with the EPA notice. Failure by Respondent to implement the approved modified Work Plan shall be a violation of this Order.

XXVII. ADMINISTRATIVE RECORD

73. EPA will establish an administrative record which contains the documents that form the basis for the issuance of this Order. No later than 60 days after initiation of on-site removal activity, it shall be made available for review by appointment on weekdays between the hours of 8am and 4pm at the EPA offices in Superfund Records Center, Room 714, 77 West Jackson Boulevard, Chicago, Illinois 60604. To review the administrative record, please contact Todd Quesada at (312) 886.4465 to make an appointment.

XXVIII. SEVERABILITY

74. If a court issues an order that invalidates any provision of this Order or finds that Respondent has sufficient cause not to comply with one or more provisions of this Order, Respondent shall remain bound to comply with all provisions of this Order not invalidated or determined to be subject to a sufficient cause defense by the court's order.

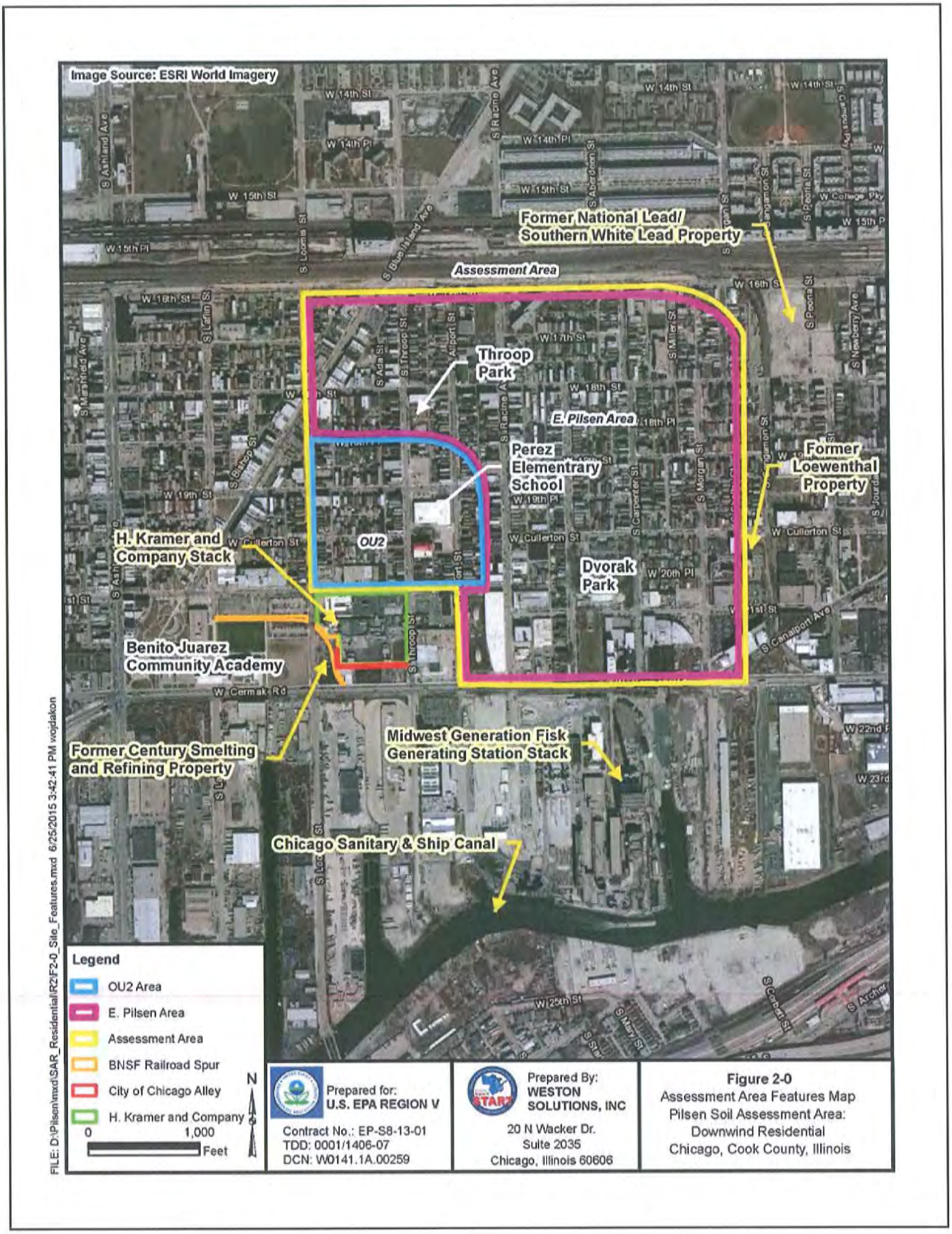
It is so ORDERED.

BY: _____ DATE: 9/22/2016
Douglas Ballotti
Acting Director, Superfund Division
Region 5
U.S. Environmental Protection Agency

EFFECTIVE DATE: _____

Appendix A
Site Location and Boundaries

Figure 2-0 - OU2 Site Features Map



In the Matter of Pilsen Soil Operable Unit 2 Residential Site,
Chicago, Illinois

Appendix B
Action Memorandum

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

MEMORANDUM

SUBJECT: ACTION MEMORANDUM - Request for Approval and Funding for a Time-Critical Removal Action and Exemption from the $2 Million and 12-month Statutory Limits at the Pilsen Soil Operable Unit 2 Residential Site, Chicago, Cook County, Illinois (Site ID: C5N8__02)

FROM: Ramon Mendoza, On-Scene Coordinator MWR for
Emergency Response Section 3

THRU: Samuel Borries, Chief
Emergency Response Branch 2

TO: Richard C. Karl, Director
Superfund Division

I. PURPOSE

The purpose of this Action Memorandum is to request and document your approval to expend up to $3,960,206 and grant an exemption from the $2 million and 12-month statutory limits in order to conduct a time-critical removal action at the Pilsen Soil Operable Unit 2 Residential Site (the Site), Chicago, Cook County, Illinois. The removal action proposed herein will mitigate threats to public health, welfare, and the environment posed by the presence of lead-contaminated surface soil in residential properties at the Site by the proper excavation and off-site disposal of lead contaminated soil in the residential yards.

This Action Memorandum serves as approval for expenditures by EPA, as the lead technical agency, to take actions described herein to abate the imminent and substantial endangerment posed by hazardous substances at the Site. The proposed removal of hazardous substances would be taken pursuant to Section 104(a)(1) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. § 9604(a)(1), and Section 300.415 of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. § 300.415. Based on the level of hazardous substances and the threat to the community, this removal action is considered time-critical. The project will require an estimated 436 working days to complete.

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID: ILN000504472
RCRA ID: none
State ID: none
Category: Time-Critical

A. Site Description

The Site consists of an area of residential properties where surface soil contaminated with lead may be attributed to H. Kramer & Co. (H. Kramer), a brass and bronze foundry located at 1345 West 21st Street in Chicago. The Site is located in the Lower West Side (Pilsen) area of Chicago (Figure 1-1). The Site is an approximate 25.2-acre semi-rectangular residential area bound to the north by West 18th Place, to the east by an alley halfway between South Allport Street and South Racine Avenue, to the south by West 21st Street, and to the west by South Loomis Street (Figure 2-0). According to National Oceanic and Atmospheric Administration (NOAA) meteorological data collected from 1928 to 2013, the predominant wind directions at the Site are from the south and west, and so the Site lies in the predominant downwind direction from H. Kramer (Figure 3).

The Site is a subset of the Assessment Area, which was investigated as part of EPA's Removal Site Evaluation (Removal Site Evaluation Report Residential, 2014). The Assessment Area is an approximately 164-acre residential, commercial, and industrial area in the Pilsen neighborhood and is made up of the Site and the East Pilsen Area (Figure 1-1 and Figure 2-0). From May to August 2013 EPA collected soil samples in residential areas to determine the nature and extent of heavy metal contamination (primarily lead) in soil and to evaluate potential contributing industrial sources. The boundaries of the Site were developed based on EPA's evaluation of the soil sample results, which is discussed further in this document. The Site described herein is also known as Operable Unit 2 (OU2) within the Assessment Area.

H. Kramer is suspected to be one of the primary industrial sources of lead that have impacted the Site and is located adjacent and upwind of the Site area. H. Kramer is a corporation that owns and operates a secondary nonferrous metals facility manufacturing primarily brass and bronze ingots, where a portion of the facility's production capacity is devoted to lead-containing metal alloys. In general, the secondary production of lead begins with the recovery of old scrap from worn-out, damaged, or obsolete products and new scrap that is made of product wastes and smelter-refinery drosses, residues, and slags. Secondary lead processing results in the generation of air emissions and solid-phase wastes. Reverberatory and blast furnaces used in smelting account for the vast majority of the total lead emissions. Other emissions from secondary smelting include oxides of sulfur and nitrogen, antimony, arsenic, copper, and tin. The solid-phase wastes generated by secondary processing include emission control dust and slag. Slag produced during lead processing is composed of iron, calcium, and silicon oxides, aluminum, and potentially several other metals in smaller amounts including antimony, arsenic, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, mercury, molybdenum, silver, and zinc (EPA, 1995). H. Kramer is listed in the EPA Toxic Release Inventory (TRI) System. TRI facilities are legally required to report to EPA, and EPA has tracked both fugitive and stack emissions from H. Kramer from 1987 to present. Fugitive emissions are emissions that could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening, and

often occur during leaks from pressurized equipment or during material transfer. From 1987 to 2013, approximately 54,366 pounds of lead, 832,567 pounds of zinc, and 6,782 pounds of copper have been released via fugitive and stack emissions according to the TRI system (EPA TRI Report 2015). High levels of lead in onsite surface soil at H. Kramer were documented during the facility's voluntary soil cleanup conducted under oversight by the Illinois EPA (completed in 2011). Fugitive air emissions containing lead in violation of the Clean Air Act (CAA) from H. Kramer have also been documented by EPA during the course of its own enforcement actions which resulted in a settlement agreement in January 2013 to install state of the art air pollution controls at the facility. Based on the aforementioned history of releases of zinc, copper, and lead at H. Kramer and its close proximity in the predominant upwind direction of the Site, EPA expected to find elevated levels of lead, zinc, and copper in the soil at the Site.

A number of enforcement actions have been taken by Federal, State, and local authorities due to the offsite release of heavy metals including lead into ambient air from H. Kramer. A summary of these actions is summarized below:

- Between 1998 and May 31, 2005, the Chicago Department of the Environment (CDOE) (now known as Chicago Department of Health) received a total of 51 complaints against H. Kramer. In this time period, CDOE conducted 126 inspections. *See* CDOE (2005). From 1991 to 2005, CDOE issued 14 Notice of Violations (citations) to H. Kramer. These citations were primarily for atmospheric pollution and general nuisance (Municipal Code §§ 7-28-080 11-4-630).

- On September 19, 1990, EPA issued a Finding of Violation to H. Kramer. EPA found that the roof vents above its rotary furnace on the west side of the facility were a source of visible particulate emissions. H. Kramer thus violated the opacity limits in its Illinois Environmental Protection Agency (Illinois EPA) air permit.

- On August 27, 1996, EPA issued a Notice of Violation, alleging that H. Kramer violated the opacity limits set forth in the Illinois Pollution Control Board Regulations.

- In 1997, EPA issued an order requiring H. Kramer to implement managerial controls to reduce fugitive emissions and implement institutional controls to reduce the fugitive emissions from emissions sources that are routed to Baghouse 5.

- In January 2010, the Illinois EPA placed an air monitoring station on the roof of Manuel Perez Jr. Elementary School (Perez School) to sample ambient air concentrations of lead within the Site. (For the location of Perez School, see Figure 2-0.) In 2010, lead was detected in 11 of approximately 60 samples at concentrations above the National Ambient Air Quality Standard (NAAQS). According to Illinois EPA, results from the air monitoring station indicated that H. Kramer was the primary contributor to the elevated ambient air lead levels in the area.

- Between 2011 and 2013, EPA's National Enforcement Investigations Center (NEIC) found H. Kramer to be the major contributor of airborne lead-bearing particulate

matter in the Pilsen neighborhood (with cadmium, copper, and tin as co-contaminants). This resulted in H. Kramer, EPA, Illinois EPA, the Illinois Attorney General, and the U.S. Department of Justice (DOJ) agreeing to a preliminary injunction order and consent decree for repairs and emission control upgrades to H. Kramer's facility.

1. Removal Site Evaluation

Based on the previous investigations by Illinois EPA and EPA NEIC, lead bearing particulate matter from H. Kramer was found at the Perez School air monitoring station downwind to the northeast, suggesting that lead bearing particulates may have been deposited over the years in a residential area downwind of H. Kramer. To determine the nature and extent of the residential area potentially impacted by H. Kramer, EPA defined the aforementioned Assessment Area downwind of H. Kramer where soil in residential yards could be sampled and evaluated.

To help determine the extent of contamination potentially attributable to H. Kramer within the Assessment Area, EPA identified reference areas such as the Little Italy Area (where there have been no adjacent identifiable historical smelters or power plants, about 1 mile north and downwind of the Site) and the Harrison Park Reference Area[1], which is about 2000 feet west and crosswind of the Site (See Figure 1-1) and thus was presumed not to have been impacted by H. Kramer.

a. Soil Sampling Activities

In May 2013, July 2013, and August 2013, EPA and its Superfund Technical Assessment and Response Team contractor (EPA START) conducted soil sampling at the Assessment Area and the Little Italy and Harrison Park reference areas to determine the nature and extent, and to evaluate potential contributing industrial sources for lead contamination in the soil. For all residential properties sampled during the Removal Site Evaluation with a total surface area of approximately 5,000 square feet (ft^2) or less, a two- to five-point composite sample was collected from 0-2 and 0-6 inches below ground surface (bgs) from the front yard and/or backyard. The composites were equally spaced within the respective portion of the yard, outside of any drip zones and away from influences of any painted surfaces. Additional soil samples were collected in distinct garden areas and were composite samples consisting of two to five soil aliquots collected from 0-6 or 0-12 inches bgs. The composites were equally spaced within garden areas, outside of the drip zone and away from influences of any painted surfaces. A separate soil sample was collected where distinct drip zones were present (only two locations). Drip zone soil samples were either: (1) a grab sample, consisting of soil from 0-6 inches bgs collected beneath a gutter downspout, or (2) a composite soil sample, consisting of up to five soil aliquots from 0- to 6-inches bgs collected from beneath the edge of the roof in homes lacking rain gutters.

In total, EPA and EPA START collected 129 soil samples from 49 properties within the Assessment Area. Of these, 71 soil samples were collected from 24 residential properties plus one church garden within the Site boundaries, and 58 soil samples were collected from 24

[1] Harrison Park Area is also known by residents as "Heart of Chicago."

properties in the East Pilsen Area. 34 soil samples from 19 properties were collected in the Harrison Park reference area and 14 samples from 11 properties in the Little Italy reference area.

Soil samples were submitted under chain of custody to STAT Analysis Corporation in Chicago for at least one of the following analyses: select total metals (antimony, copper, cadmium, chromium, mercury, lead, tin, and zinc); lead-fine-grained fraction (grain size < 250 micrometers [μm])[2]; *in vitro* lead bioaccessibility;* Toxicity Characteristic Leaching Procedure (TCLP) lead;* and pH.*

b. Identifying Source(s) of Lead Contamination in the Removal Assessment Area

EPA produced a number of reports to determine the significant contributing industrial sources of elevated lead concentrations in soil within the Assessment Area. EPA's Field Environmental Decision Support (FIELDS) Team used statistical analysis on the soil sample lab results to investigate similarities and differences between concentrations of cadmium, copper, lead, tin, and zinc in surface soil on the property of H. Kramer, in the immediate vicinity of the H. Kramer property, the Assessment Area, the Little Italy and Harrison Park reference areas, and the City of Chicago background (400 mg/kg, based on USGS (2003))[3]. EPA FIELDS concluded the following[4]:

- Concentrations of cadmium, copper, lead, tin, and zinc generally decreased with increasing distance, and downwind, from H. Kramer. Furthermore, these concentrations do not appear to increase with decreasing distance toward other potential sources of heavy metal contamination bordering the Assessment Area.

- Those portions of the Assessment Area closest to H. Kramer (within 0.25 mile north and 0.2 mile east of H. Kramer including the Site) were significantly more impacted with lead and zinc relative to the Little Italy reference area and the City of Chicago background (USGS, 2003).

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[2] Fine-grained lead: Based on the recommendation of the EPA toxicologist, an additional analysis for total lead (fine grain fraction) was added to the total lead analysis. This involved screening the sample through a 250 μm sieve and the smaller particles (<250μm) being analyzed for lead. Fine-grained lead are smaller particles which can be more easily disturbed and become airborne, resulting in a higher incidence of exposure to the residents. The fine-grained lead results were used for the risk assessment for the Site.

*Not conducted after May 2013 sampling event.

[3] Only the soil samples from the 0- to 6- inch bgs were used in the analysis. Samples collected in gardens and drip zones were not used due to the potential for garden soils to be amended, mixed, and/or imported, and the potential for drip zone soils to contain lead from lead-based paint and thus be especially concentrated. In addition, no duplicate or replicate samples were used from any dataset.

[4] For further discussion, see WESTON SOLUTIONS, INC., Removal Site Evaluation for Pilsen Soil Assessment Area: Residential (Nov. 2014); EPA FIELDS, John Canar, Linda Jacobson, and Chuck Roth, U.S. EPA Region 5 Report for the Statistical Analysis of Cadmium, Copper, Lead, Tin, and Zinc Found in Soil at or near the H. Kramer Facility, Chicago, IL 3 (Oct. 27, 2014); and EPA MEMO dated July 8, 2015 "Definition of Operable Unit 2 (OU2) Boundary [for the Pilsen Soil Operable Unit 2 Residential Site (C5N8_02)]".

- High zinc/lead ratios (>1), a signature characteristic of H. Kramer baghouse dust, are present in soil in the immediate vicinity of H. Kramer and in the southwest region of the Assessment Area. In contrast, zinc/lead ratios in the East Pilsen area and Harrison Park reference area were near or below Little Italy reference area levels or City of Chicago background levels in surface soil samples.

These findings also suggest the areas in the southwest region of the Assessment Area (including the Site) have been impacted by an industrial release of lead, as opposed to historical leaded gasoline emissions or abraded lead-based paint, because those sources do not have cadmium, copper, zinc, and tin associated with lead as they are in Site surface soils.

The February 2015 report from NEIC bolsters EPA FIELDS's conclusion that H. Kramer is a significant contributor for elevated lead in residential surface soils in an area containing the Site. NEIC was able to conclude that the lead in the soil came from a source with several co-contaminants – cadmium, copper, tin, and zinc – which are precisely the kinds of metals present in H. Kramer's emissions as discussed above. The shape, size, and composition of the lead-bearing particles in the area containing the Site were consistent with slag material from industrial processes like smelting, and the lead isotope ratios in soil within the Site boundaries suggests that the surface soils were mixed with emissions from a source that matched H. Kramer's baghouse dust and the particles collected on the TSP filters. NEIC also supported EPA FIELDS's finding that increased distance from H. Kramer corresponded with lower concentrations of lead, cadmium, copper, tin, and zinc in the soil.

Just like the EPA FIELDS report, EPA NEIC eliminated several non-industrial sources of lead as primary sources of lead contamination in the surface soils in the Assessment Area.

- **Leaded paint**: Associations of cadmium, copper, and tin in leaded paint are rare, and lead-based paint particle types were *not* observed in any of the soil areas. Thus, non-industrial lead from leaded paint historically used on homes and buildings in the Pilsen area was *not* a dominant source of lead in residential soils.

- **Leaded gasoline emissions**: Lead, cadmium, copper, tin, and zinc collectively are *not* characteristic of leaded gasoline emissions, and leaded fuel combustion particle types were *not* observed in any of the soil areas. Thus, vehicle exhaust from the historical use of leaded gasoline was *not* a dominant source of lead in residential soils.

In May 2015, EPA FIELDS further evaluated the data, including information contained in the NEIC report and new sampling data from a railroad spur just west of H. Kramer, to better delineate the Site boundaries, namely, the extent of lead contamination in residential soils in which H. Kramer may be considered a significant contributor.[5] Figure 5 shows the Site boundaries along with the average total lead and total zinc concentrations in surface soil (which are major components of H. Kramer's historical emissions) for the Site, the East Pilsen area, and the Little Italy reference area. Figure 6 presents the average total lead and total zinc

[5] See EPA MEMO dated July 8, 2015 "Definition of Operable Unit 2 (OU2) Boundary [for the Pilsen Soil Operable Unit 2 Residential Site (C5N8_02)]."

concentrations for the Harrison Park reference area. Although lead levels in the East Pilsen and Harrison Park Area are above Little Italy reference area levels or City of Chicago background levels in surface soil samples, the zinc to lead ratios are below 1, indicating a likely different source of lead contamination than from H. Kramer. Therefore, the East Pilsen and Harrison Park Areas are being further evaluated separately from the Pilsen Soil Operable Unit 2 Residential Site.[6]

c. Soil Sampling Results for the Pilsen Soil Operable Unit 2 Residential Site

Total metal analytical results were compared to the 2014 EPA Removal Management Levels (RML) (hazard quotient [HQ] of 3) for residential soil. Lead was the only metal that exceeded the 2014 EPA RMLs for residential soil (400 mg/kg for lead and fine-grained lead) at the Site. Based on these soil sample results, lead was confirmed to be the primary constituent of concern for the Site.

For surface soil, average Site total lead and fine-grained lead concentrations (0-6 inches bgs, not including garden, drip zone, duplicate, or replicate samples) were 1,377 and 1,578 mg/kg, respectively (sample size [N] = 30). These average concentrations exceed the EPA residential soil RML for lead of 400 mg/kg. Fine-grained lead was detected in surface soil above 400 mg/kg at 24 of 24 residential properties sampled at the Site; with the highest fine grain lead concentration in surface soils at 3,500 mg/kg. Surface soil results for the Site are shown in Figure 4-0.

As for subsurface soil, average Site total lead and fine grained lead concentrations (6-12, 6-14, 6-18, 6-21, 12-24, and 18-24 inches bgs, not including garden, drip zone, duplicate, or replicate samples) were 1,094 and 1,282 mg/kg, respectively (N = 10). Total lead and fine-grained lead were detected in subsurface soil above 400 mg/kg at 6 of 6 residential properties (6-12, 6-14, 6-18, 6-21, 12-24, and 18-24 inches bgs including duplicate samples, not including garden samples).

Average Site garden soil sampling results for total lead and fine grained lead were 945 and 1,051 mg/kg, respectively (N = 14), exceeding the EPA residential soil RML for lead of 400 mg/kg. Average Site drip zone sampling results for total lead and fine-grained lead were 1,065 and 960 mg/kg, respectively (N = 2). A summary of total and fine grain lead analytical results for the Site are presented in Table 1 below:

[6] Surface soil results for East Pilsen, Harrison Park, and Little Italy are respectively shown in Figures 4-1, 4-2, and 4-3.

Table 1	OU2 Surface Soil (0-6 inches bgs) Results			
	No. of Samples*	Average*	Range*	No. of Samples > 400 mg/kg*
Total Lead	30	1,377 mg/kg	320 to **3,200** mg/kg	27 of 30 samples
Fine-Grained Lead	30	1,578 mg/kg	450 to 3,500 mg/kg	30 of 30 samples
	OU2 Subsurface Soil (6-12, 6-14, 6-18, 6-21, 12-24, and 18-24 inches bgs) Results			
	No. of Samples*	Average*	Range*	No. of Samples > 400 mg/kg*
Total Lead	10	1,094 mg/kg	**470** to 2,500 mg/kg	10 of 10 samples
Fine-Grained Lead	10	1,282 mg/kg	420 to 4,200 mg/kg	10 of 10 samples

*Does not include duplicate or replicate samples.

2. Physical Location

The geographical coordinates for the approximate center of the Site are 41° 51' 20.45" North latitude and 87° 39' 32.80" West longitude. The Site is in the predominantly downwind direction from H. Kramer, which borders the Site to the southwest.

The Perez School lies within the Site and the Benito Juarez Community Academy (high school) is about one block southwest. Throop Park is about a half a block north and Dvorak Park is about 1 block east of the Site. The Chicago Sanitary and Ship Canal is located approximately a half-mile to the south.

An Environmental Justice (EJ) analysis for the Site is contained in Attachment II. Screening of the surrounding area used Region 5's EJ Screen Tool. Region 5 has reviewed environmental and demographic data for the area surrounding the Site at the intersection of Cullerton and Throop Streets and determined there is a high potential for EJ concerns at this location.

3. Site Characteristics

The Site is made up of residential homes with single family and multiple unit buildings. The majority of residential front and back yards and gardens are sunken about three to six feet below street level. In 2010, the population within the Site was approximately 1,563 (EPA, 2015). There are about 178 residential properties within the boundary of the Site. Of these approximately 121 residential properties have non-permanent covers in their yards (bare soil, grass, garden, gravel, etc.), with the rest of the yards having concrete or asphalt covers.

4. Release or Threatened Release into the Environment of a Hazardous Substance, or Pollutant, or Contaminant

The release or threatened release into the environment of a hazardous substance, pollutant, or contaminant occurred at the Site. Lead is present in surface soil in residential yards at the Site at concentrations greater than the EPA RML of 400 mg/kg, with fine grained lead concentrations as

high as 3,500 mg/kg in surface soil. The average Site surface soil total lead and fine-grained lead concentrations (0-6 inches bgs, not including garden, drip zone, duplicate, or replicate samples) were 1,377 and 1,578 mg/kg, respectively (N = 30).

EPA has concluded that there exists a potential for exposure of humans to lead, a hazardous substance, because of the presence of lead-contaminated soil in residential neighborhoods at the Site. Lead exposure via inhalation and/or ingestion can have detrimental effects on almost every organ and system in the human body. Off-site migration of the documented hazardous waste would greatly increase the potential exposure to nearby human populations, animals, or the food chain.

5. NPL Status

The Site is not on the National Priorities List (NPL).

6. Maps, Pictures, and Other Graphic Representations

The following Figures are included as attachments:

Figure 1-1 - Site Location Map (including location of Little Italy Reference Area)
Figure 2-0 - Site Features Map
Figure 3 - Predominant Wind Pathway Map at OU2
Figure 4-0 - OU2 Area Surface Soil Results
Figure 4-1 - East Pilsen Area Surface Soil Results
Figure 4-2 - Harrison Park Area (Heart of Chicago) Surface Soil Results
Figure 4-3 - Little Italy Area Surface Soil Results
Figure 5 - Total Lead and Zinc Surface Soil Results in OU2
Figure 6 - Total Lead and Zinc Surface Soil Results Little Italy and Harrison Park Areas

In addition, additional figures and graphs are in Attachment 2: Environmental Justice Report

B. Other Actions to Date

1. Previous Actions

No previous response actions have been taken by state, federal, or local authorities, nor by H. Kramer, to clean up any of the residential homes in the Site.

2. Current Actions

No current actions by private or local/state governments are underway at the Site. EPA has issued fact sheets and hosted two public availability sessions with Illinois EPA and the City of Chicago to inform the public regarding the findings of the Removal Site Evaluation, address immediate concerns of area residents, and discuss EPA's plans for cleaning up the contamination at the Site.

C. State and Local Authorities' Roles

1. State and Local Actions to Date

No response actions have been taken by the State or City at the Site. However, the Illinois EPA oversaw a voluntary cleanup of part of H. Kramer's property adjacent to the Site (see Section II.A, *supra*), culminating in a no further remediation letter on March 29, 2012. The Alderman's Office has offered the residents at the Site free mulch as ground cover for any exposed soil since 2013.

2. Potential for Continued State/Local Response

EPA will continue to coordinate its enforcement and response actions at the Site with the appropriate agencies, including the Illinois EPA, City of Chicago Department of Health, and Alderman Solis's Office.

III. THREATS TO PUBLIC HEALTH AND)/OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

Conditions at the Site may pose an imminent and substantial endangerment to public health, welfare, and the environment and meet the criteria for a time-critical removal action provided for in Section 300.415(b)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. § 300.415(b)(2). These criteria include, but are not limited to, the following:

1. Actual or potential exposure of nearby human populations, animals, or the food chain to hazardous substances, pollutants, or contaminants.

Lead contaminated-soil is situated throughout the residential community near the Site. Analysis of soil samples collected in the surface soils confirmed the presence of lead at concentrations exceeding the residential EPA RML of 400 mg/kg in every residential soil sampling location (24 of 24) for fine grained lead. Lead is a "hazardous substance" by definition under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); *see also* 40 C.F.R. § 302.4. The average Site surface soil total lead and fine-grained lead concentrations were 1,377 and 1,578 mg/kg, respectively (N = 30), with the highest concentration fine grained lead detected at 3,500 mg/kg.

There are about 178 residential properties within the Site boundaries. In 2010, the population of OU2 was approximately 1,563 (EPA, 2015). The residential yards have high accessibility to sensitive populations including young children and pregnant women. Adults and children may be exposed to high levels of lead from normal foot traffic, yard work, and play.

The Agency for Toxic Substances and Disease Registry (ATSDR) has studied the health effects of lead and determined that the harmful effects of lead exposure are more severe for young children and developing fetuses (through exposure to pregnant women). These effects include premature birth, lower birth weight, and decreased mental ability in infants, learning difficulties, and reduced growth in young children. Lead can affect almost every organ and system in the body, but the main target for lead toxicity is the nervous system, both in adults and children.

Long-term exposure of adults can result in decreased performance in some tests that measure functions of the nervous system. It may also cause weakness in fingers, ankles, and wrists. Lead exposure causes small increases in blood pressure, particularly in middle-aged and older people and can cause anemia. Exposure to high lead levels can severely damage the brain and kidneys in adults or children and ultimately cause death. In pregnant women, high levels of exposure to lead may cause miscarriage. High-level exposure in men can damage the organs responsible for sperm production. The Department of Health and Human Services (DHHS) has determined that lead and lead compounds are reasonably anticipated to be human carcinogens, and the EPA has determined that lead is a probable human carcinogen (ATSDR, CAS # 7439-92-1, Aug. 2007).

A Risk Assessment for the Site was conducted by an EPA Toxicologist and concluded that the soil concentrations of lead are at an unacceptable risk level to the residents accessing the Site.

2. **High levels of hazardous substances, pollutants, or contaminants in soil largely at or near the surface that may migrate.**

The average Site surface soil total lead and fine-grained lead concentrations were 1,377 and 1,578 mg/kg, respectively (N = 30), with the highest concentration of fine grained lead detected at 3,500 mg/kg. Of particular concern are the concentrations of fine-grained lead, smaller lead particles which can be more easily disturbed and become airborne, resulting in a higher incidence of exposure to residents. Fine-grained lead was detected in surface soil above the EPA residential soil RML for lead of 400 mg/kg at 24 of 24 residential properties sampled at the Site.

Sensitive populations, including children under 7 years old and pregnant women, may become exposed through normal foot traffic, yard work, or play. Additionally the presence of the contaminants near the surface allows for the migration of the contaminant from residential yards via wind, rain or manual dispersion.

3. **Weather conditions that may cause hazardous substances, pollutants, or contaminants to migrate or be released**

Cook County, Illinois receives a substantial amount of precipitation, and temperatures are normally below freezing during the winter with regular snowfall. In the winter, the average temperature is 25.1° F and the average daily minimum temperature is 17.3°F. In the summer, the average temperature is 71.7° F, and the average daily maximum temperature is 81.7°F. The average total annual precipitation is 38.65 inches and the average seasonal snowfall is 32.6 inches. The average wind speed is about 10.7 miles per hour (according to the National Weather Service). These weather conditions may cause water, wind, and freeze-thaw erosion of the Site's surface soil. Lead contaminated surface soil may migrate via wind and runoff off-site to other areas in the residential neighborhood.

4. **The availability of other appropriate federal or state response mechanisms to respond to the release.**

The State of Illinois does not have the financial resources to eliminate this threat.

IV. ENDANGERMENT DETERMINATION

Given the Site conditions, the nature of the known lead contamination on Site, and the potential exposure pathways to on-Site and nearby populations and people living on the residences described in Sections II, and III above, actual or threatened release of a hazardous substances from the Site, if not addressed by implementing the response actions selected in this Memorandum, may present an imminent and substantial endangerment to public health, welfare, or the environment.

V. EXEMPTION FROM STATUTORY LIMITS

Section 104(c) of CERCLA, as amended by SARA, limits a Federal emergency response to a time period not to exceed 12 months and $2 million unless three criteria are met. The quantities of residential homes and levels of hazardous substances at the Site warrant the exemption from the 12 month time frame and $2 million limit based on the following factors:

A. There is an immediate risk to public health, welfare, and the environment

There is an immediate risk to public health because of the high levels of lead found in surface soil in the residential yards sampled at the Site. The average Site surface soil total lead and fine-grained lead concentrations were 1,377 and 1,578 mg/kg, respectively (N = 30). These average concentrations exceed the EPA residential soil RML for lead of 400 mg/kg. Fine-grained lead was detected in surface soil above 400 mg/kg at 24 of 24 residential properties sampled at the Site, with the highest concentration at 3500 mg/kg.

There are approximately 178 residential homes in the Site; of these, about 121 homes have yards which appear to be bare soil or grass. The residential yards have high accessibility to sensitive populations including young children and pregnant women. Sensitive populations such as children under the age of 7 years and pregnant women live in many of these residences. Adults and children may be exposed to high levels of lead from normal foot traffic, yard work, and play.

A Risk Assessment for the Site was conducted by an EPA Toxicologist and concluded that the soil concentrations of lead are at an unacceptable risk level to the residents accessing the Site.

B. Continued response actions are immediately required to prevent, limit, or mitigate an emergency

The continued presence of hazardous substances at the Site constitutes an imminent threat to human health, welfare, and the environment and as such immediate and continued response actions are required. There are approximately 178 residential homes in the Site; of these, approximately 121 homes have yards which appear to be bare soil or grass. The residential yards have high accessibility to sensitive populations, including young children under the age of 7 years and pregnant women. In fact, these sensitive populations live in many of these residences and young children have been observed playing in the contaminated yards. Adults and children may be exposed to high levels of lead from normal foot traffic, yard work, and play.

C. Assistance will not otherwise be provided on a timely basis

The City of Chicago and State of Illinois do not have the resources now or in the near future to clean up the residential yards at the Site. EPA estimates that the cleanup will take more than 12 months and cost more than two million dollars. If the Site is left unmitigated there will be continued risks to those in and around the Site.

VI. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

Removal activities at this Site will include, but are not limited to, excavation and proper disposal of lead-contaminated soils, specifically the removal of lead-contaminated soil at all the residential properties containing green space or bare soil where surface soils do not have a permanent cover and exceed the residential RML for total lead of 400 mg/kg.

The response actions described in this memorandum directly address actual or potential releases of hazardous substances on Site, which may pose an imminent and substantial endangerment to public health, or welfare, or the environment. Removal activities on Site include the following:

1. Develop a Work Plan for the lead-contaminated soil assessment of the Site, including soil sampling of additional residential homes to determine if their yards exceed the EPA RML for lead of 400 mg/kg in surface soil;

2. Develop and implement a Site health and safety plan, sampling plan, site security plan, air monitoring plan, and work plan;

3. Conduct land surveying to the extent necessary to establish a grid system to locate all property boundaries, special features (pipes, storage tanks, etc.), and sample locations, and obtain property access to conduct the removal action for those residences within the Site boundaries with surface lead concentrations above the EPA residential RML of 400 mg/kg;

4. Based upon the sampling plan, conduct extent of contamination sampling on-site to further delineate the extent of lead contaminated surface soil in each residential yard;

5. Excavate contaminated soil with concentrations above the residential RML of 400 mg/kg for lead. Soils with lead above the residential RML will be removed down to a maximum depth of 24 inches, to eliminate any direct contact threat and to ensure unrestricted exposure by Pilsen residents to Site soils. Excavated material that fails toxicity characteristic leaching procedure (TCLP) for lead may be treated with a fixation agent prior to disposal;

6. Based upon soil results, remove, transport and dispose of all characterized or identified hazardous substances, pollutants, wastes or contaminants at a RCRA/CERCLA approved disposal facility in accordance with the EPA off-site rule; 40 C.F.R. § 300.440;

7. Restoration of all excavated areas to their original condition prior to excavation; and

8. Take any necessary response actions to address any Site related release or threatened release of a hazardous substance pollutant or contaminant that the EPA determines may pose an imminent and substantial endangerment to public health or the environment.

The removal action will be conducted in a manner not inconsistent with the NCP and consistent with EPA's "Superfund Lead-Contaminated Residential Sites Handbook, OSWER 9285.7-50 August 2003". The OSC has initiated planning for provisions of post-removal Site control consistent with the provisions of Section 300.415(1) of the NCP.

The threats posed by uncontrolled substances considered hazardous meet the criteria listed in Section 300.415(b)(2) of the NCP, and the response actions proposed herein are consistent with any long-term remedial actions which may be required. The proposed removal of hazardous substances, pollutants and contaminants that pose a substantial threat of release is expected to minimize substantial requirements for post-removal Site controls.

Off-Site Rule

All hazardous substances, pollutants, or contaminants removed off-site pursuant to this removal action for treatment, storage and disposal shall be treated, stored, or disposed of at a facility in compliance, as determined by EPA, with the EPA Off-Site Rule, 40 C.F.R § 300.440.

1. Contribution to remedial performance

The proposed action will not impede future remedial actions based on available information.

2. Engineering Evaluation/Cost Analysis (EE/CA)

This section is not applicable.

3. Applicable or relevant and appropriate requirements (ARARs)

All applicable, relevant and appropriate requirements (ARARs) of Federal and State law will be complied with to the extent practicable considering the exigencies of the circumstances. *See* 40 C.F.R. § 300.415(j). On March 26, 2015, an email was sent to the Illinois EPA asking for any State of Illinois ARARs which may apply.

4. Project Schedule

This project is expected to be completed in approximately 436 working days.

B. Estimated Costs

The Independent Government Cost Estimate is presented in Attachment 3 and the detailed cleanup contractor cost is presented in Attachment 4. The estimated project costs are summarized below:

REMOVAL ACTION PROJECT CEILING ESTIMATE	
Extramural Costs: Regional Removal Allowance Costs: Total Cleanup Contractor Costs (This cost category includes estimates for ERRS, subcontractors, Notices to Proceed, and Interagency Agreements with Other Federal Agencies. Includes a 10% contingency)	$ 3,042,538
Other Extramural Costs Not Funded from the Regional Allowance: Total START, Oversight, and report writing support.	$ 401,120
Subtotal Extramural Costs	$ 3,443,658
Extramural Costs Contingency (15% of Subtotal, Extramural Costs)	$ 516,548
TOTAL REMOVAL ACTION PROJECT CEILING	**$ 3,960,206**

The response actions described in this memorandum directly address actual or threatened releases of hazardous substances, pollutants, or contaminants at the Site which may pose an imminent and substantial endangerment to public health and safety, and to the environment. These response actions do not impose a burden on the affected property disproportionate to the extent to which the property contributes to the conditions being addressed.

VII. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Given the Site conditions, the nature of the hazardous substances and pollutants or contaminants documented on Site, and the potential exposure pathways to nearby populations described in Sections II, III, and IV above, actual or threatened release of hazardous substances and pollutants or contaminants from the Site, failing to take or delaying action may present an imminent and substantial endangerment to public health, welfare or the environment, increasing the potential that hazardous substances will be released, thereby threatening the adjacent population and the environment.

VIII. OUTSTANDING POLICY ISSUES

There are no outstanding policy issues.

IX. ENFORCEMENT

For administrative purposes, information concerning the enforcement strategy for this Site is contained in the Enforcement Confidential Addendum.

The total EPA costs for this removal action based on full-cost accounting practices that will be eligible for cost recovery are estimated to be at $ 6,549,501[7]

($ 3,960,206+ $199,000) + (57.47% X $ 4,159,206) = $ 6,549,501

X. RECOMMENDATION

This decision document represents the selected removal action for the Pilsen Soil Operable Unit 2 Residential Site. It was developed in accordance with CERCLA, as amended, and is not inconsistent with the NCP. This decision is based on the administrative record for the Site (Attachment 1). Conditions at the Site meet the NCP Section 300.415(b)(2) criteria for a removal and the CERCLA section 104(c) emergency exemption from the 12-month and $2 million statutory limitations, and I recommend your approval of the proposed removal action and 12-month and $2 million exemptions. The total removal action project ceiling if approved will be $3,960,206. Of this an estimated $3,559,086 may be used for cleanup contractor costs. You may indicate your decision by signing below.

APPROVE: Richard C Karl DATE: 8-3-15
Director, Superfund Division

DISAPPROVE: _____ DATE: _____
Director, Superfund Division

[7] Direct Costs include direct extramural costs and direct intramural costs. Indirect costs are calculated based on an estimated indirect cost rate expressed as a percentage of site-specific direct costs, consistent with the full cost accounting methodology effective October 27, 2008. These estimates do not include pre-judgment interest, do not take into account other enforcement costs, including Department of Justice costs, and may be adjusted during the course of a removal action. The estimates are for illustrative purposes only and their use is not intended to create any rights for responsible parties. Neither the lack of a total cost estimate nor deviation of actual total costs from this estimate will affect the United States' right to cost recovery.

Enforcement Addendum

Figures:

The following Figures are included as attachments:
Figure 1-1 - Site Location Map (including location of Little Italy Reference Area);
Figure 2-0 - Site Features Map;
Figure 3 - Predominant Wind Pathway Map at OU2;
Figure 4-0 - OU2 Area Surface Soil Results
Figure 4-1 - E. Pilsen Area Surface Soil Results
Figure 4-2 - Harrison Park Area (Heart of Chicago) Surface Soil Results
Figure 4-3 - Little Italy Area Surface Soil Results
Figure 5 - Total Lead and Zinc Surface Soil Results in OU2
Figure 6 - Total Lead and Zinc Surface Soil Results Little Italy & Harrison Park Areas

In addition, additional figures and graphs are in Attachment 2: Environmental Justice Report

Attachments:

1. Administrative Record Index
2. Environmental Justice Analysis
3. Independent Government Cost Estimate (Enforcement Confidential)
4. Detailed Cleanup Contractor and START Estimate

cc: B. Schlieger, EPA 5202 G (email: schlieger.brian@epa.gov)
L. Nelson, U.S. DOI, **w/o Enf. Addendum**
(email: lindy_nelson@ios.doi.gov)
B. Everetts, Illinois EPA, **w/o Enf. Addendum**
(email: bruce.everetts@illinois.gov)

BCC PAGE HAS BEEN REDACTED

NOT RELEVANT TO SELECTION

OF REMOVAL ACTION

ENFORCEMENT ADDENDUM

HAS BEEN REDACTED – FIVE PAGES

ENFORCEMENT CONFIDENTIAL

NOT SUBJECT TO DISCOVERY

FOIA EXEMPT

NOT RELEVANT TO SELECTION

OF REMOVAL ACTION

FIGURES

Figure 1-1 – Site Location Map (including location of Little Italy Reference Area)

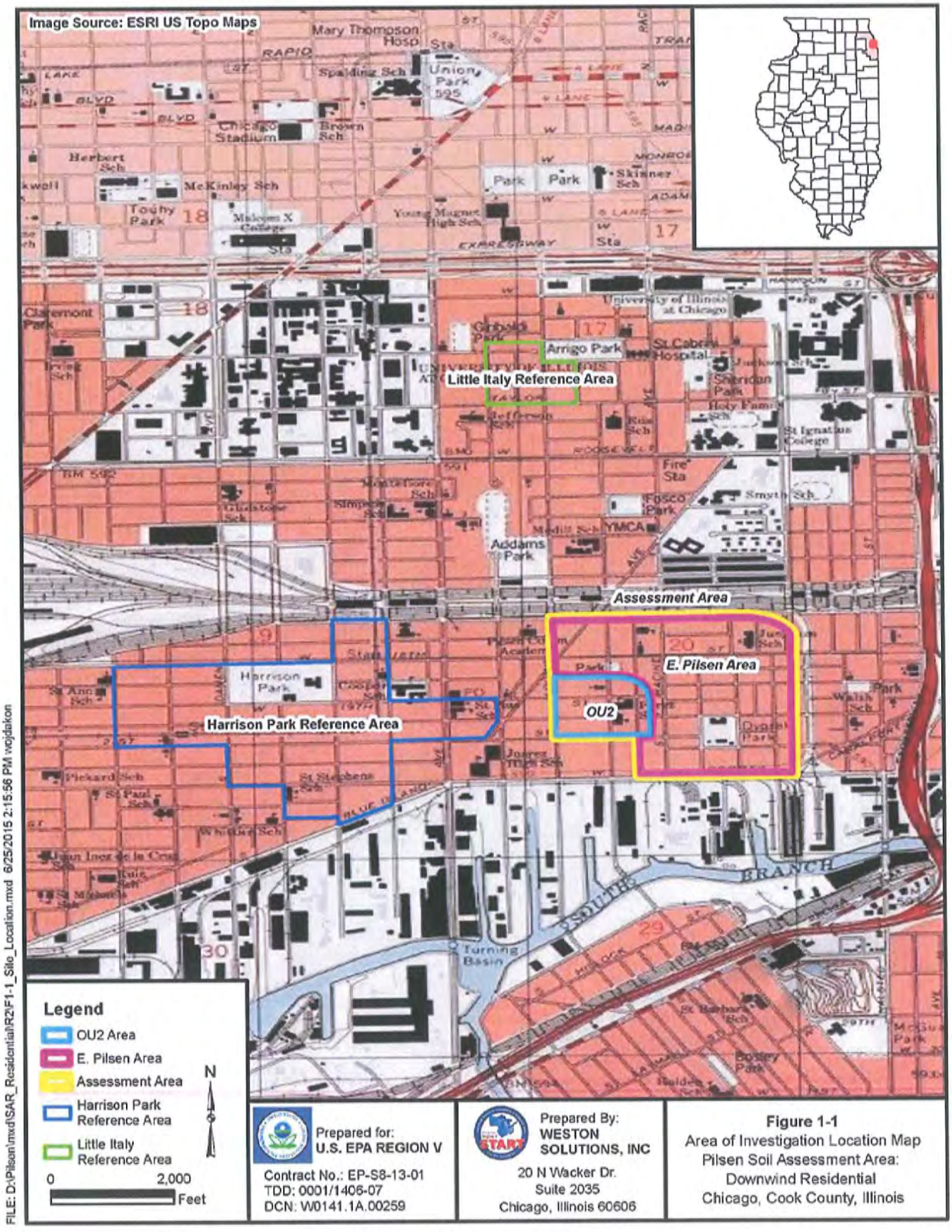


Figure 2-0 - OU2 Site Features Map

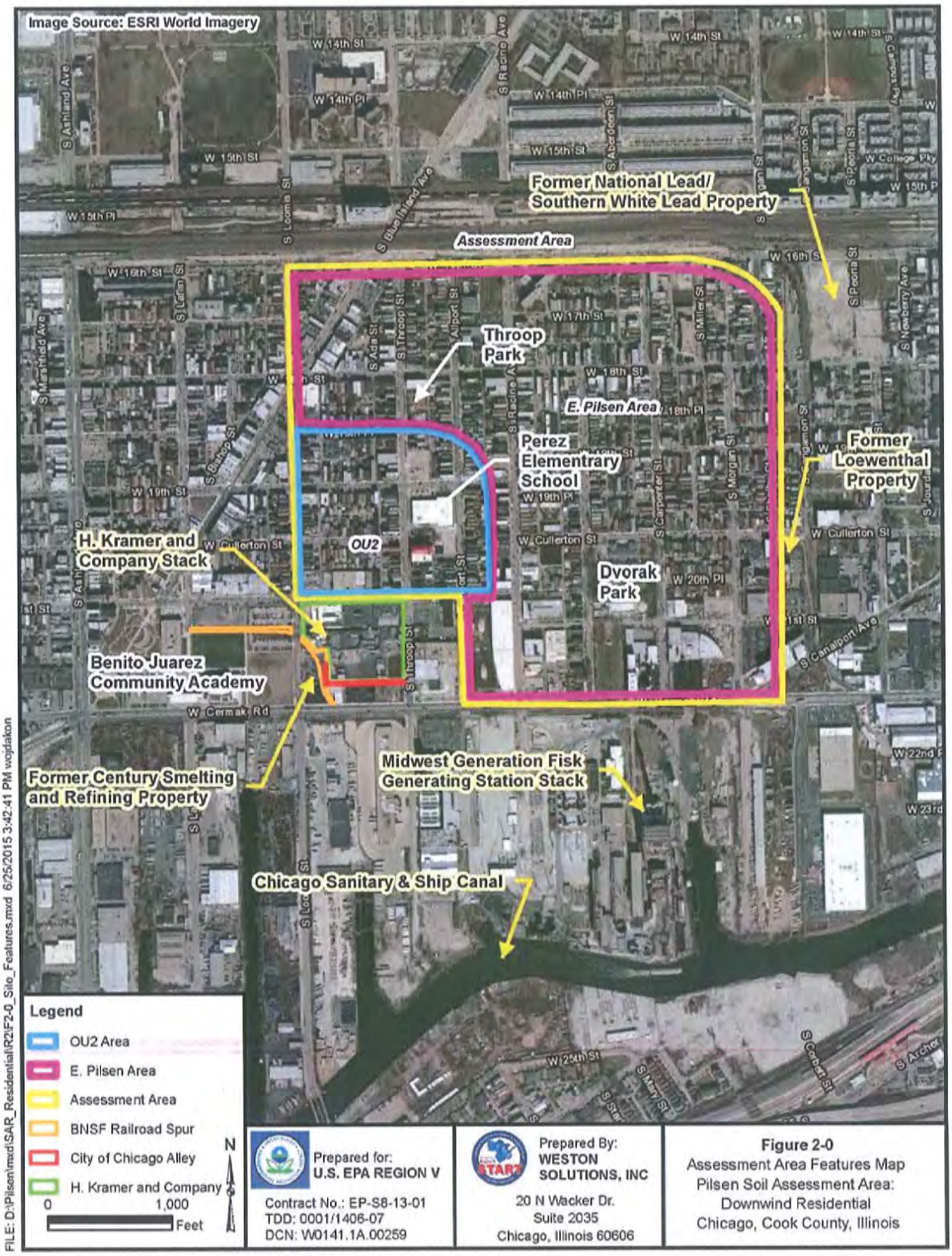


FIGURE 3 – Predominant Wind Pathway Map at OU2

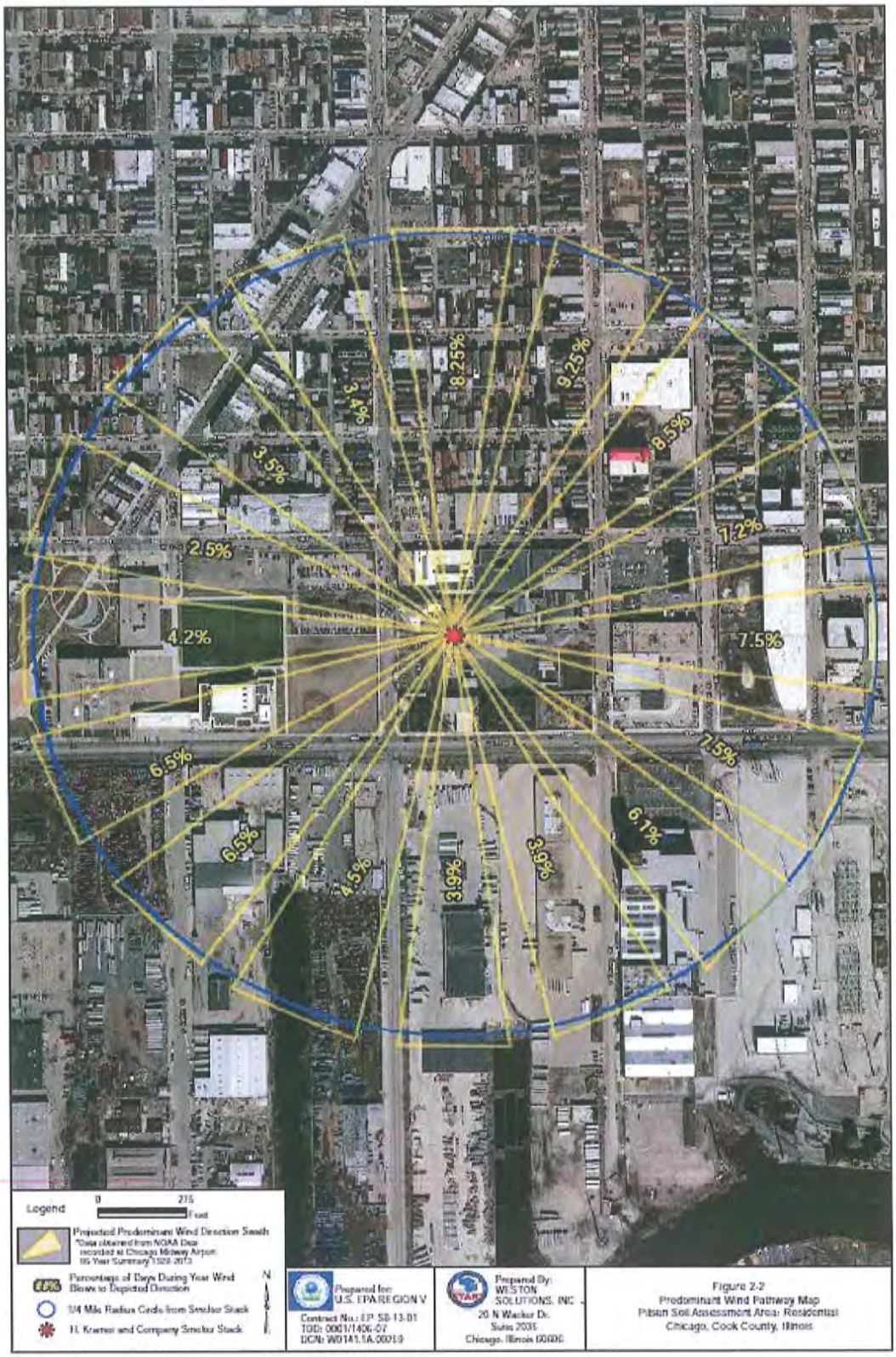


Figure 4-0: OU2 Area Surface Soil Results

Figure 4-1 - East Pilsen Area Surface Soil Results

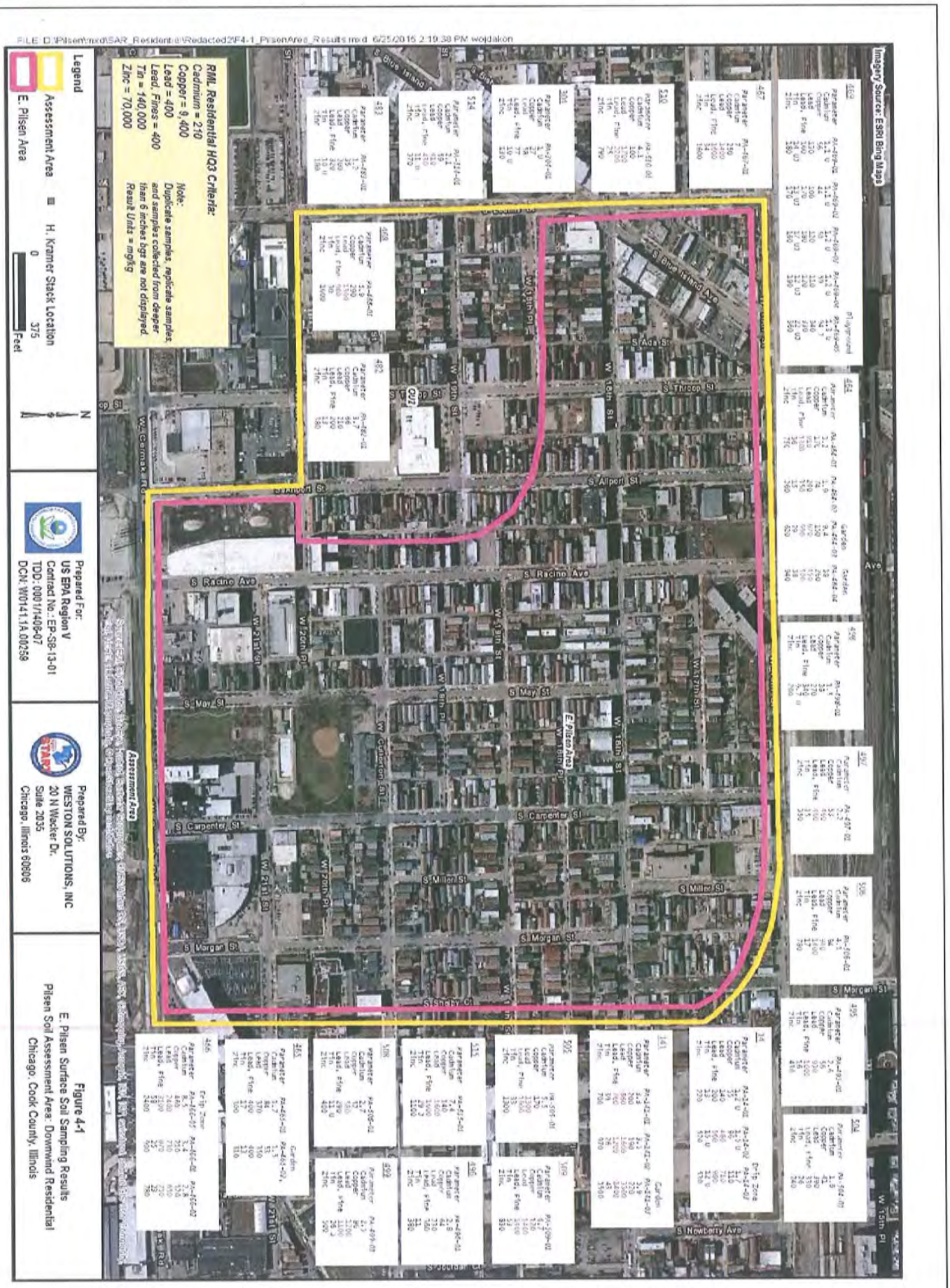


Figure 4-2: Harrison Park Area (Heart of Chicago) Surface Soil Results

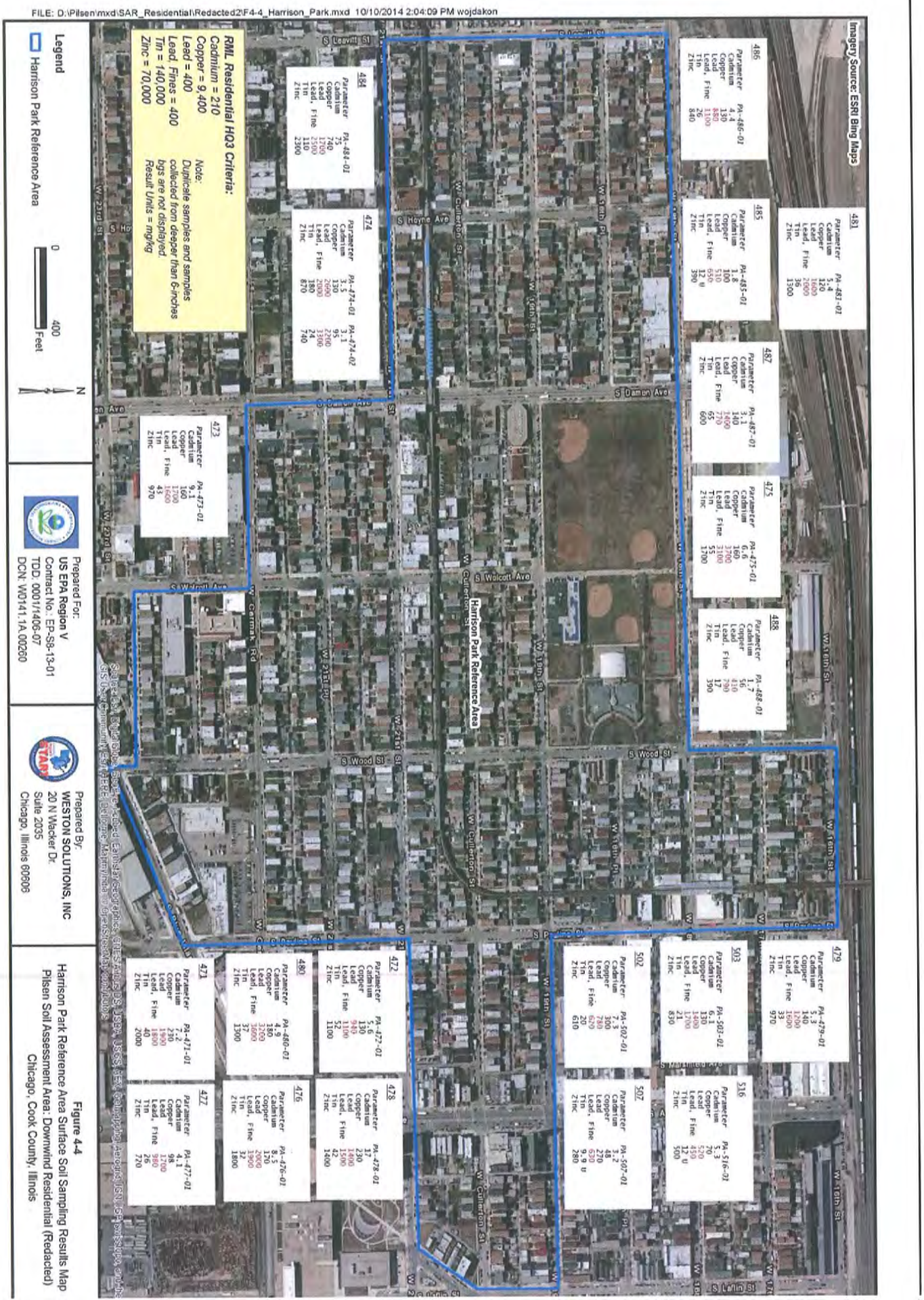


Figure 4-4
Harrison Park Reference Area Surface Soil Sampling Results Map
Pilsen Soil Assessment Area: Downwind Residential (Redacted)
Chicago, Cook County, Illinois

Figure 4-3 Little Italy Area Surface Soil Results

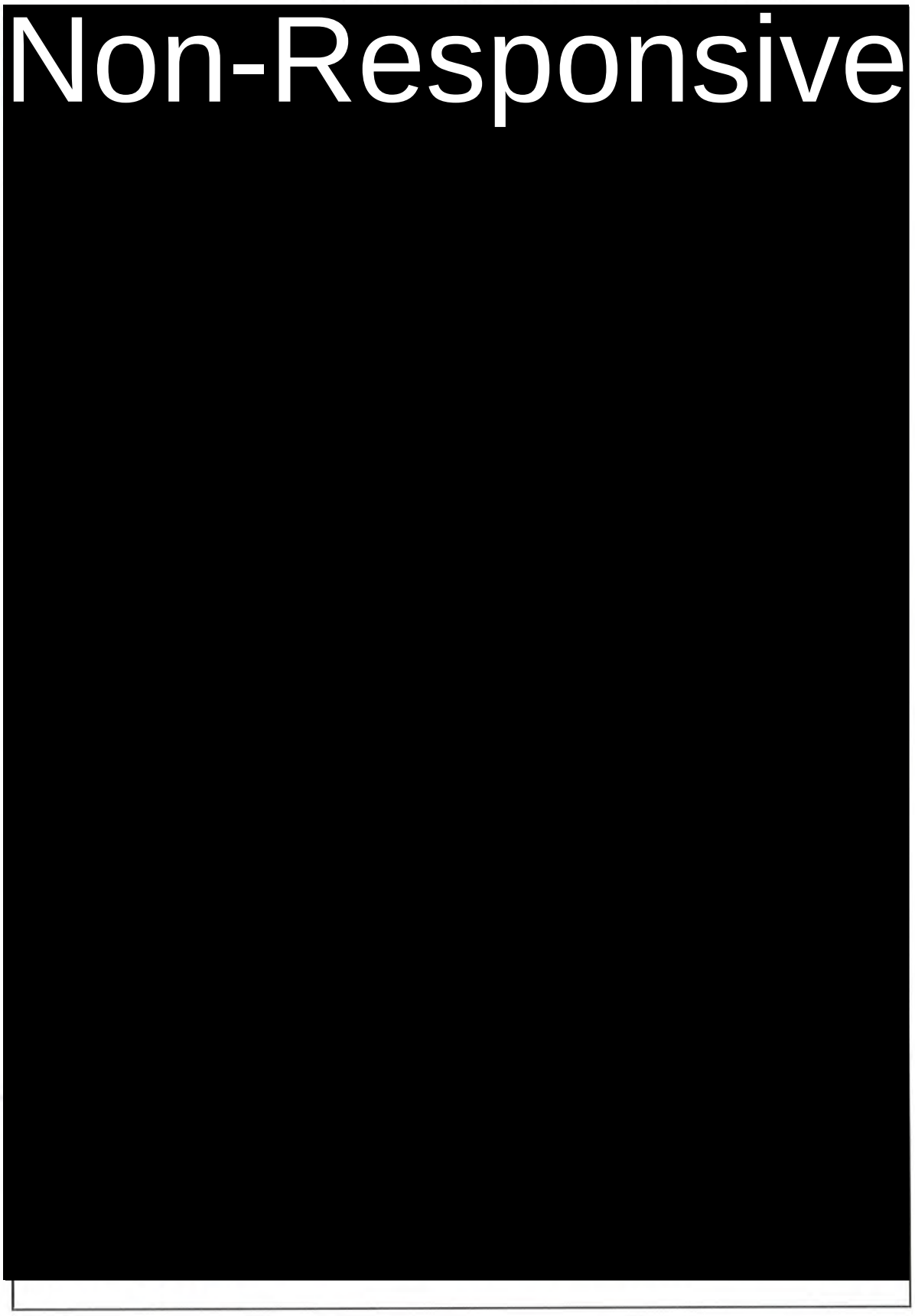


Figure 5. Total Lead and Zinc Surface Soil Results in OU2

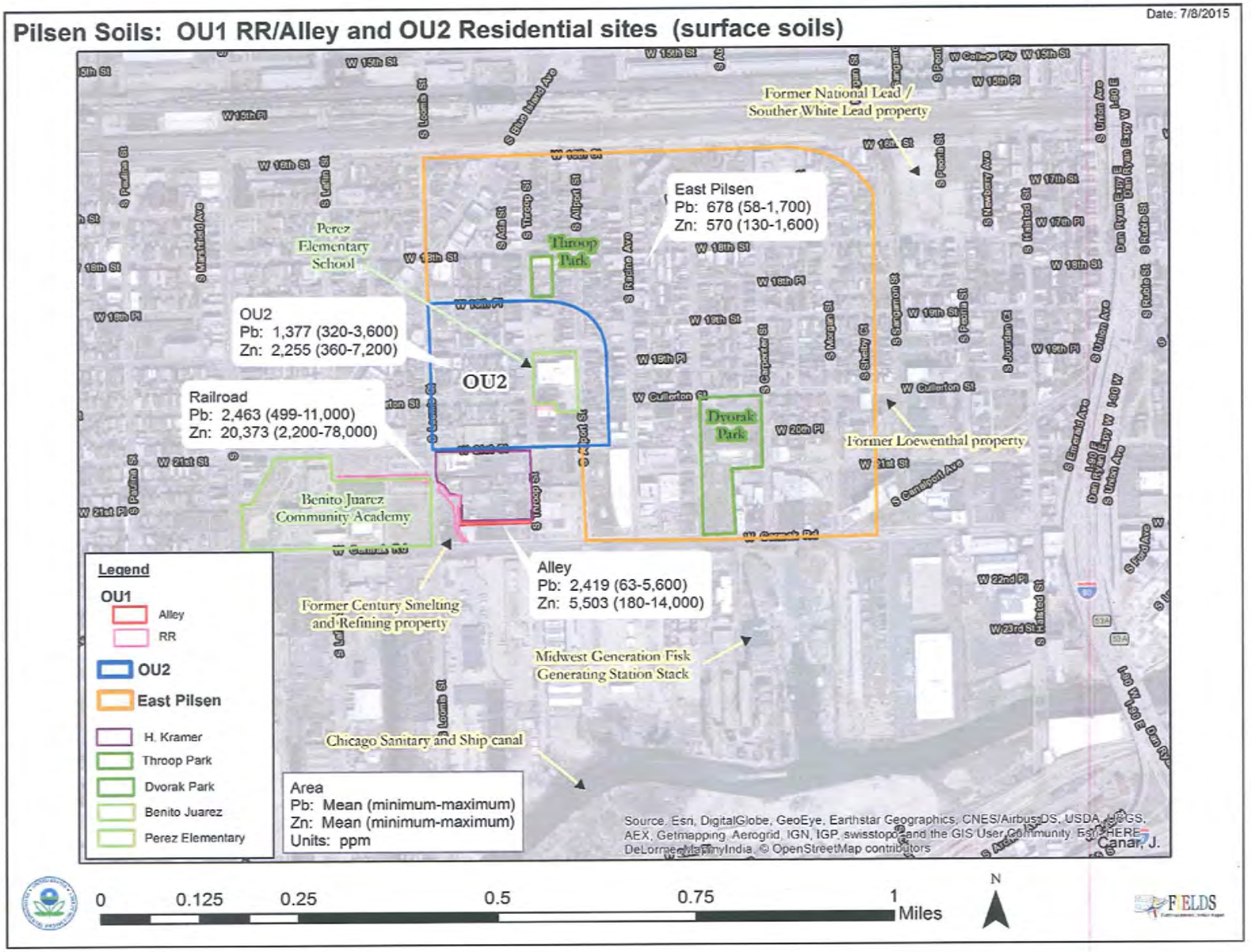
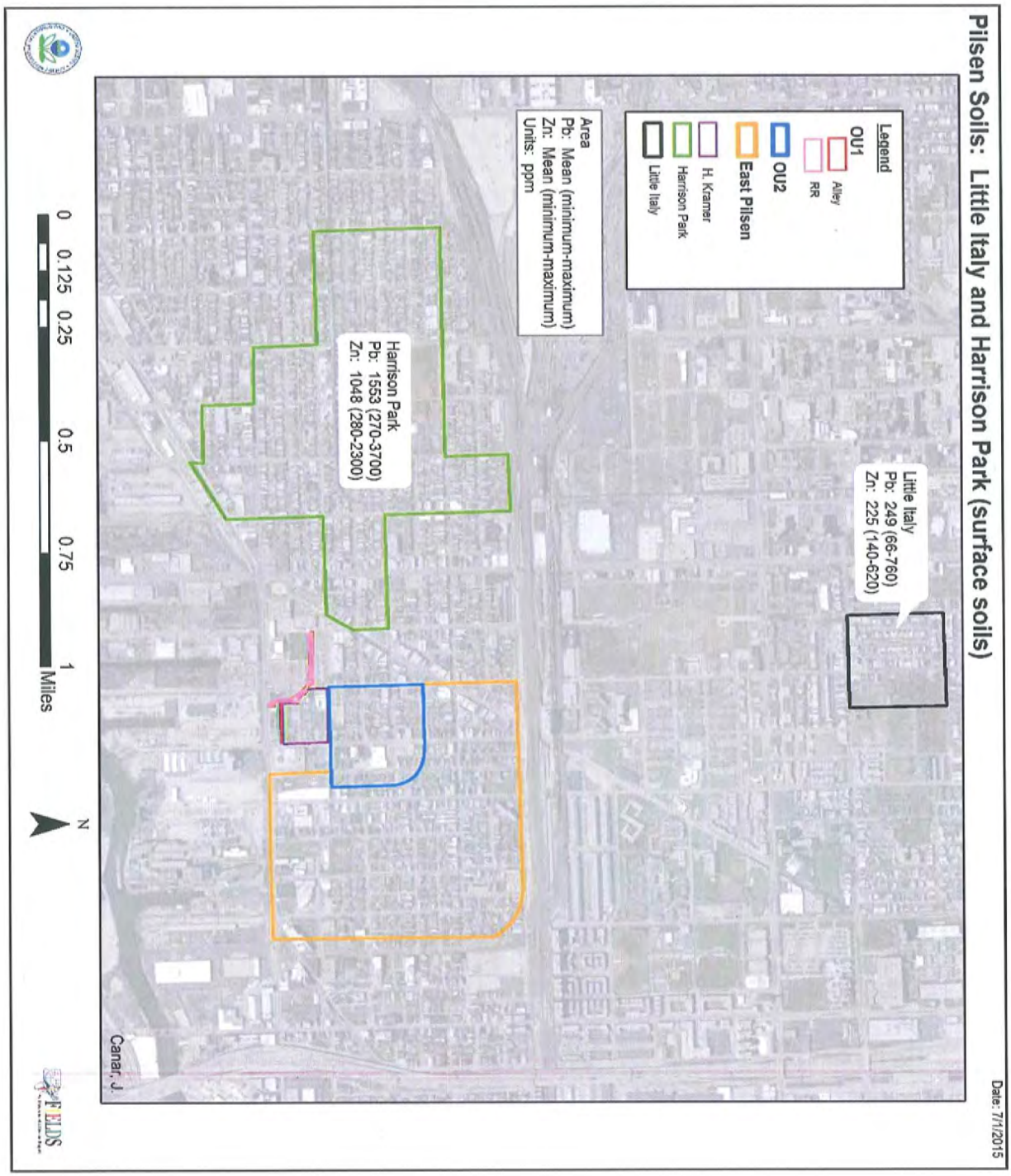


Figure 6. Total Lead and Zinc Surface Soil Results Little Italy & Harrison Park Areas



ATTACHMENT 1

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL ACTION

ADMINISTRATIVE RECORD
FOR THE
PILSEN SOILS RAILROAD AND ALLEY SITE
OPERABLE UNIT 2
CHICAGO, COOK COUNTY, ILLINOIS

ORIGINAL
JULY, 2015

NO.	SEMS ID	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
1	919188	Undated	H. Kramer & Co.	File	Brass & Bronze Ingots Nominal Composition Tables	6
2	919191	5/1/73	U.S. EPA	File	Air Pollution Engineering Manual - Chapter 6: Metallurgical Equipment	95
3	919192	1/1/86	Journal of Materials Science	File	Journal Article Abstract: "The Strength of Brass/Sn-Pb-Sb Solder Joints Containing 0 to 10% Sb"	1
4	918527	9/1/95	U.S. EPA Office of Compliance	File	Profile of the Nonferrous Metals Industry	138
5	919178	8/27/01	Pioneer Environmental	Retirement Program of Farley, Inc.	Site Investigation Report - Focused & Remediation Objectives Report for 900 W. 18th St. (Vol. I of II)	155
6	918533	1/1/03	USGS	File	Concentrations of Polynuclear Aromatic Hydrocarbons and Inorganic Constituents in Ambient Surface Soils, Chicago, Illinois: 2001-02	84
7	919190	8/1/03	U.S. EPA	File	Superfund Lead-Contaminated Residential Sites Handbook	124

8	919175	1/1/05	Chicago Department of Environment	File	Report Regarding H. Kramer and Company - 1345 West 21st St.	34
9	919186	6/1/05	IEPA	Pilsen Environmental Rights and Reform Organization	Response to Pilsen Environmental Rights and Reform Organization Questions Regarding Operations at H. Kramer and Company	12
10	919176	9/1/07	Conestoga Rovers & Associates	IEPA	Updated Focused Site Investigation Report - H. Kramer	665
11	919179	8/31/11	Parker, D., U.S. EPA	Som, K., U.S. EPA	Technical Report on the Characterization of Lead-Bearing Particulate Matter in the Pilsen Neighborhood	25
12	915292	4/30/13	Weston Solutions	Mendoza, R., U.S. EPA	Field Sampling Plan (Revision 2)	236
13	915298	4/2/14	Weston Solutions, Inc.	U.S. EPA	Site Assessment Report (Revision 3)	433
14	919189	10/24/14	ASTM International	File	Standard Specification for White Metal Bearing Alloys (Known Commercially as "Babbitt Metal")	4
15	918526	10/27/14	Canar, J., Jacobsen, L, and Roth, C., U.S. EPA FIELDS Group	File	Report for the Statistical Analysis of Cadmium, Copper, Lead, Tin, and Zinc Found in Soil at and near the H. Kramer Facility	18
16	919183	11/17/14	Mehl, R., Weston	Mendoza, R., U.S. EPA	Removal Site Evaluation Report for Pilsen Soil Assessment Area: Residential (Redacted Version)	593
17	918530	2/6/15	National Enforcement Investigations Center	U.S. EPA	Final Technical Report on the Characterization of Lead in Soils, Pilsen Neighborhood	117
18	919187	3/26/15	Mendoza, R., U.S. EPA	Everetts, B., IEPA	Letter re: Request for ARARs at the Pilsen Soils Operable Unit 2 Residential Site	2

19	919181	5/6/15	Fusinski, K., U.S. EPA	Mendoza, R., U.S. EPA	Memo re: Risk Assessment for the Pilsen Smelter Site Residential Neighborhood Areas Res1 and Res2a	6
20	919185	6/4/15	U.S. EPA	File	Envirofacts TRI Search Results - Fisk Generating Station	10
21	919180	7/8/15	Mendoza, R., U.S. EPA	Ribordy, M., U.S. EPA	Memo re: Definition of Operable Unit 2 Boundary for the Pilsen Soil Operable Unit 2 Residential Site	19
22	-	-	Mendoza, R., U.S. EPA	Karl, R., U.S. EPA	Action Memorandum re: Request for Approval and Funding for a Time-Critical Removal Action at the Pilsen Soil Operable Unit 2 Railroad Spur and Alley Site **(PENDING)**	-

ATTACHMENT 2: Environmental Justice Analysis

EPA United States Environmental Protection Agency

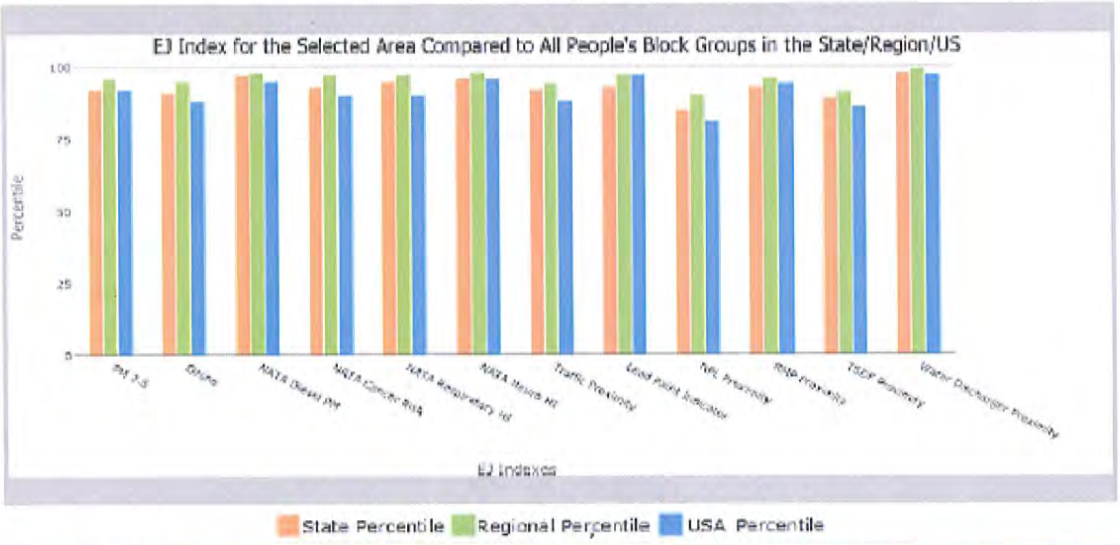
EJSCREEN Report

for 1 mile Ring Centered at 41.855133,-87.659691, ILLINOIS, EPA Region 5

Approximate Population: 39163

Pilsen Soils OU2 Residential

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
EJ Indexes			
EJ Index for PM2.5	92	96	92
EJ Index for Ozone	91	95	88
EJ Index for NATA Diesel PM	97	98	95
EJ Index for NATA Air Toxics Cancer Risk	93	97	90
EJ Index for NATA Respiratory Hazard Index	95	97	90
EJ Index for NATA Neurological Hazard Index	96	98	96
EJ Index for Traffic Proximity and Volume	92	94	88
EJ Index for Lead Paint Indicator	93	97	97
EJ Index for Proximity to NPL sites	85	90	81
EJ Index for Proximity to RMP sites	93	96	94
EJ Index for Proximity to TSDFs	89	91	86
EJ Index for Proximity to Major Direct Dischargers	98	99	97



This report shows environmental, demographic, and EJ indicator values. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.

EJSCREEN Report

for 1 mile Ring Centered at 41.855133,-87.659691, ILLINOIS, EPA Region 5

Approximate Population: 39163

Pilsen Soils OU2 Residential

EJSCREEN Report

for 1 mile Ring Centered at 41.855133,-87.659691, ILLINOIS, EPA Region 5

Approximate Population: 39163

Pilsen Soils OU2 Residential

Selected Variables	Raw Data	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
Environmental Indicators							
Particulate Matter (PM 2.5 in µg/m³)	12.9	11.4	98	10.8	99	9.78	98
Ozone (ppb)	42.3	44.1	17	44.4	25	46.1	25
NATA Diesel PM (µg/m³)*	2.74	0.968	96	0.712	95-100th	0.824	95-100th
NATA Cancer Risk (lifetime risk per million)*	67	48	91	42	90-95th	49	80-90th
NATA Respiratory Hazard Index*	3.1	1.8	93	1.5	90-95th	2.3	70-80th
NATA Neurological Hazard Index*	0.15	0.073	93	0.067	95-100th	0.063	95-100th
Traffic Proximity and Volume (daily traffic count/distance to road)	130	69	86	69	87	110	80
Lead Paint Indicator (% Pre-1960 Housing)	0.72	0.43	76	0.4	80	0.3	87
NPL Proximity (site count/km distance)	0.034	0.069	42	0.086	40	0.096	38
RMP Proximity (facility count/km distance)	0.69	0.43	82	0.33	86	0.31	88
TSDF Proximity (facility count/km distance)	0.036	0.037	72	0.051	64	0.054	64
Water Discharger Proximity (facility count/km distance)	0.64	0.27	90	0.23	92	0.25	91
Demographic Indicators							
Demographic Index	70%	34%	87	28%	92	35%	89
Minority Population	83%	36%	85	24%	92	36%	86
Low Income Population	56%	31%	85	32%	85	34%	83
Linguistically Isolated Population	20%	5%	90	2%	96	5%	92
Population With Less Than High School Education	32%	13%	90	12%	94	14%	89
Population Under 5 years of age	7%	6%	59	6%	61	7%	59
Population over 64 years of age	8%	13%	31	13%	24	13%	29

* The National-Scale Air Toxics Assessment (NATA) is EPA's ongoing, comprehensive evaluation of air toxics in the United States. EPA developed the NATA to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that NATA provides broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the NATA analysis can be found at: http://www.epa.gov/ttn/atw/natamain/index.html.

For additional information, see: www.epa.gov/environmentaljustice

ATTACHMENT 3

INDEPENDENT GOVERNMENT COST ESTIMATE

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OF REMOVAL ACTION

ATTACHMENT 4

DETAILED CLEANUP CONTRACTOR ESTIMATE

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In the Matter of Pilsen Soil Operable Unit 2 Residential Site,
Chicago, Illinois

Appendix C
OU2 Residential Properties Comprising the Site

Non-Responsive

ATTACHMENT A
INDEX TO ADMINISTRATIVE RECORD

NO.	SEMS	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
1	919188	Undated	H. Kramer & Co.	File	Brass & Bronze Ingots Nominal Composition Tables	6
2	919191	5/1/73	U.S. EPA	File	Air Pollution Engineering Manual – Chapter 6: Metallurgical Equipment	95
3	919192	1/1/86	Journal of Materials Science	File	Journal Article Abstract: "The Strength of Brass/Sn-Pb-Sb Solder Joints Containing 0 to 10% Sb"	1
4	918527	9/1/95	U.S. EPA Office of Compliance	File	Profile of the Nonferrous Metals Industry	138
5	919178	8/27/01	Pioneer Environmental	Retirement Program of Farley, Inc.	Site Investigation Report – Focused & Remediation Objectives Report for 900 W. 18th St. (Vol I of II)	155
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13	915298	4/2/14	Weston Solutions, Inc.	U.S. EPA	Site Assessment Report (Revision 3)	433
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18		3/20/15	Vlcek, L., U.S. EPA	Toeroek Associates, Inc.	Pilsen Area Soils Site – Compilation of PRP Search Investigations	168
19	919187	3/26/15	Mendoza, R., U.S. EPA	Everetts, B., IEPA	Letter re: Request for ARARs at the Pilsen Soils Operable Unit 2 Residential Site	2
20	919181	5/6/15	Fusinski, K., U.S. EPA	Mendoza, R., U.S. EPA	Memo re: Risk Assessment for the Pilsen Smelter Site Residential Neighborhood Areas Res1 and Res2a	6
21		5/28/15	Mendoza, R., U.S. EPA, and Canar, J., U.S. EPA FIELDS Group	Peachey, R., U.S. EPA	Definition of Res2a Area Within Res 2	18
22	919185	6/4/15	U.S. EPA	File	Envirofacts TRI Search Results – Fisk Generating Station	10
23	919180	7/8/15	Mendoza, R., U.S. EPA	Ribordy, M., U.S. EPA	Memo re: Definition of Operable Unit 2 Boundary for the Pilsen Soil Operable Unit 2 Residential Site	19
24	919231	8/3/15	Mendoza, R., U.S. EPA	Karl, R., U.S. EPA	Action Memorandum re: Request for Approval and Funding for a Time-Critical Removal Action and Exemption from the $2 Million and 12-Month	37

					Statutory Limits at the Pilsen Soil Operable Unit 2 Residential Site, Chicago, Cook County, Illinois	
25		9/16/16	Pallardy, P., Tetra Tech, Inc.	Mendoza, R., U.S. EPA	Summary Tables and Validation Reports for Pilsen Soil OU2 Residential Site	204
26		12/1/15	Karl, R., U.S. EPA	File	In the Matter of Pilsen Soil Operable Unit 2 Residential Site, Chicago, Illinois: Administrative Settlement Agreement and Order on Consent for Removal Action	116
27	920857	5/13/15	National Enforcement Investigations Center	Mendoza.R., USEPA	Errata Sheet for Technical Report NEICVP1060E02, Characterization of Lead in Soils, Chicago, Illinois, February 2015, NEIC Project Number VP1060	18

Pilsen Soil Operable Unit 2 Residential Site

List of Potentially Responsible Parties Sent Unilateral Administrative Order

H. Kramer & Co.
c/o Mr. Howard Chapman, Jr.
President
1345 West 21st Street
Chicago, Illinois 60608

Appendix B
Property Inspection Form

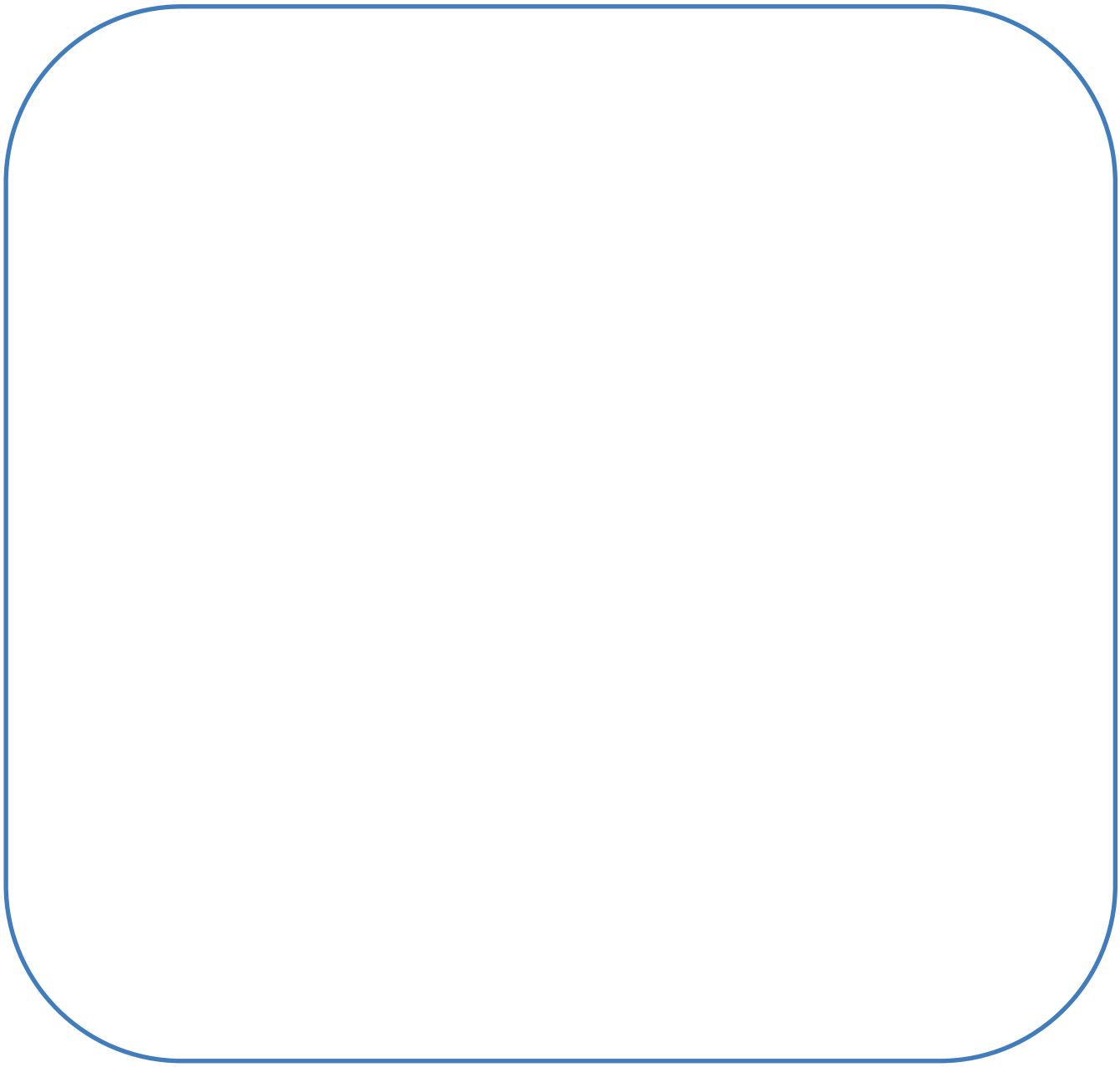
Property Inspection Form – Pilsen OU2 Area

Structure

Current Address:

Description

Sketch of Property



Property Inspection Form – Pilsen OU2 Area

Parcel Landscape Area

Current Address:

Lawn Area

			Restoration Plan
Flowers/Plants:	☐ **Yes**	☐ **No**	
Soil (grade) next to structure:	☐ **Yes**	☐ **No**	
Shrubbery:	☐ **Yes**	☐ **No**	
Trees:	☐ **Yes**	☐ **No**	

Sidewalks

			Restoration Plan
Sidewalk:	☐ **Yes**	☐ **No**	
Tree Roots:	☐ **Yes**	☐ **No**	
Sections Missing:	☐ **Yes**	☐ **No**	
Other: _____	☐ **Yes**	☐ **No**	

Signatures

Inspection Form Signatures <u>Before</u> Removal Action

Name of Home Owner	Signature	Date
GHD	Signature	Date

Inspection Form Signatures <u>After</u> Removal Action

Name of Home Owner	Signature	Date
GHD	Signature	Date

Appendix C
Borehole Logs

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: H. Kramer
PROJECT NUMBER: 039826
CLIENT: H. Kramer
LOCATION: Chicago, Illinois
DRILLING CONTRACTOR: Paramount

HOLE DESIGNATION: GP-1
DATE COMPLETED: July 7, 2005
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Hargens

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
	FILL, gravel	
	FILL, slag, cinder, brick, gravel, brown	0.5
2		
4	Fill, wood	4.0
	ML-SILT, sandy, fine grained, brown	5.0
6	- wet at 6.0ft BGS	
8		
10	CL-CLAY, gray	10.0
12	END OF BOREHOLE @ 12.0ft BGS	12.0

BOREHOLE: 2" Diameter Borehole; Backfilled with Soil Cuttings and Bentonite Chips

SAMPLE NUMBER	INTERVAL	REC (ft)	'N' VALUE
1	P/S		
2	P/S		
3	P/S		

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽
CHEMICAL ANALYSIS ( )

OVERBURDEN LOG 039826-BH.GPJ CRA_CORP.GDT 7/21/05

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: H. Kramer
PROJECT NUMBER: 039826
CLIENT: H. Kramer
LOCATION: Chicago, Illinois
DRILLING CONTRACTOR: Paramount

HOLE DESIGNATION: GP-2
DATE COMPLETED: July 7, 2005
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Hargens

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
0	FILL, gravel	0.5
	FILL, slag, cinder, brick, gravel, brown	
2		
	FILL, gravel, gray	3.5
4	FILL, wood, black	4.0
	ML-SILT, sandy, fine grained, brown	5.0
6	- wet at 6.0ft BGS	
8	END OF BOREHOLE @ 8.0ft BGS	8.0
10		
12		

BOREHOLE: 2" Diameter Borehole; Backfilled with Soil Cuttings and Bentonite Chips

SAMPLE NUMBER	INTERVAL	REC (ft)	'N' VALUE
1	P/S		
2	P/S		

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽
CHEMICAL ANALYSIS (○)

OVERBURDEN LOG 039826-BH.GPJ CRA_CORP.GDT 7/21/05

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: H. Kramer
PROJECT NUMBER: 039826
CLIENT: H. Kramer
LOCATION: Chicago, Illinois
DRILLING CONTRACTOR: Paramount

HOLE DESIGNATION: GP-3
DATE COMPLETED: July 7, 2005
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Hargens

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE
	FILL, gravel	0.5	2" Diameter Borehole				
	FILL, brick, gravel			1	P/S		
2							
	FILL, cinders, slag, black	3.5					
4	ML-SILT, sandy, fine grained, brown	4.0	Backfilled with Soil Cuttings and Bentonite Chips				
	- wet at 6.0ft BGS		▽	2	P/S		
6							
8	END OF BOREHOLE @ 8.0ft BGS	8.0					
10							
12							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽
CHEMICAL ANALYSIS ( )

OVERBURDEN LOG 039826-BH.GPJ CRA_CORP.GDT 7/21/05

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: H. Kramer
PROJECT NUMBER: 039826
CLIENT: H. Kramer
LOCATION: Chicago, Illinois
DRILLING CONTRACTOR: Paramount

HOLE DESIGNATION: GP-4
DATE COMPLETED: July 7, 2005
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Hargens

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE
0	FILL, gravel						
	FILL, slag, brick, cinders, gravel, brown	0.5	2" Diameter Borehole	1	P/S		
2							
4			Backfilled with Soil Cuttings and Bentonite Chips				
	ML-SILT, sandy, fine grained, brown	5.0					
6	- wet at 6.0ft BGS		▽	2	P/S		
8	END OF BOREHOLE @ 8.0ft BGS	8.0					
10							
12							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽
CHEMICAL ANALYSIS (oval)

OVERBURDEN LOG 039826-BH.GPJ CRA_CORP.GDT 7/21/05

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: H. Kramer
PROJECT NUMBER: 039826
CLIENT: H. Kramer
LOCATION: Chicago, Illinois
DRILLING CONTRACTOR: Paramount

HOLE DESIGNATION: GP-5
DATE COMPLETED: July 7, 2005
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Hargens

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE
	FILL, gravel	0.5	2" Diameter Borehole	1	P/S		
	FILL, slag, cinders, brick, gravel						
2							
	ML-SILT, sandy, fine grained, dark brown	3.5	Backfilled with Soil Cuttings and Bentonite Chips				
4							
	- wet at 6.0ft BGS		▽	2	P/S		
6							
	END OF BOREHOLE @ 8.0ft BGS	8.0					
8							
10							
12							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽
CHEMICAL ANALYSIS ( )

OVERBURDEN LOG 039826-BH.GPJ CRA_CORP.GDT 7/21/05

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: H. Kramer
PROJECT NUMBER: 039826
CLIENT: H. Kramer
LOCATION: Chicago, Illinois
DRILLING CONTRACTOR: Paramount

HOLE DESIGNATION: GP-6
DATE COMPLETED: July 7, 2005
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Hargens

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
0	FILL, gravel	0.5
	FILL, slag, cinders, brick, gravel, brown	
4	FILL, wood	4.0
	ML-SILT, sandy, fine grained, brown	4.5
6	- wet at 6.0ft BGS	
8	END OF BOREHOLE @ 8.0ft BGS	8.0

BOREHOLE: 2" Diameter Borehole; Backfilled with Soil Cuttings and Bentonite Chips

SAMPLE NUMBER	INTERVAL	REC (ft)	'N' VALUE
1	P/S		
2	P/S		

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ⊽
CHEMICAL ANALYSIS (1)

OVERBURDEN LOG 039826-BH.GPJ CRA_CORP.GDT 7/21/05

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: H. Kramer
PROJECT NUMBER: 039826
CLIENT: H. Kramer
LOCATION: Chicago, Illinois
DRILLING CONTRACTOR: Paramount

HOLE DESIGNATION: GP-7
DATE COMPLETED: July 7, 2005
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Hargens

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
	FILL, gravel	0.5
	FILL, brick	1.0
	FILL, silt, clay, brown	
2	FILL, slag, cinders, brick, gravel, brown	2.0
4	ML-SILT, sandy, fine grained, dark gray, odor	4.0
6	- wet at 6.0ft BGS	
8	END OF BOREHOLE @ 8.0ft BGS	8.0
10		
12		

BOREHOLE: 2" Diameter Borehole; Backfilled with Soil Cuttings and Bentonite Chips

SAMPLE NUMBER	INTERVAL	REC (ft)	'N' VALUE
1	P/S		
2	P/S		

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽
CHEMICAL ANALYSIS ( )

OVERBURDEN LOG 039826-BH.GPJ CRA_CORP.GDT 7/21/05

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: H. Kramer
PROJECT NUMBER: 039826
CLIENT: H. Kramer
LOCATION: Chicago, Illinois
DRILLING CONTRACTOR: Paramount

HOLE DESIGNATION: GP-8
DATE COMPLETED: July 7, 2005
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Hargens

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
	FILL, gravel	0.5
	FILL, medium grained sand, some clay, dark brown	
	FILL, wood, dark brown	3.5
	ML-SILT, sandy, fine grained, dark brown, slight odor	4.0
	- wet at 6.0ft BGS	
	END OF BOREHOLE @ 8.0ft BGS	8.0

BOREHOLE: 2" Diameter Borehole; Backfilled with Soil Cuttings and Bentonite Chips

SAMPLE

NUMBER	INTERVAL	REC (ft)	'N' VALUE
1	P/S		
2	P/S		

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽
CHEMICAL ANALYSIS (1)

OVERBURDEN LOG 039826-BH.GPJ CRA_CORP.GDT 7/21/05

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: H. Kramer
PROJECT NUMBER: 039826
CLIENT: H. Kramer
LOCATION: Chicago, Illinois
DRILLING CONTRACTOR: Paramount

HOLE DESIGNATION: GP-9
DATE COMPLETED: July 7, 2005
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Hargens

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE
0	FILL, gravel	0.5	2" Diameter Borehole				
	FILL, brick, slag, cinders, brown			1	P/S		
2							
	FILL, wood, black	3.5					
4	ML-SILT, sandy, fine grained, brown	4.0	Backfilled with Soil Cuttings and Bentonite Chips				
	- wet at 6.0ft BGS		▽	2	P/S		
6							
8	END OF BOREHOLE @ 8.0ft BGS	8.0					
10							
12							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽
CHEMICAL ANALYSIS (oval)

OVERBURDEN LOG 039826-BH.GPJ CRA_CORP.GDT 7/21/05

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: H. Kramer
PROJECT NUMBER: 039826
CLIENT: H. Kramer
LOCATION: Chicago, Illinois
DRILLING CONTRACTOR: Paramount

HOLE DESIGNATION: GP-10
DATE COMPLETED: July 7, 2005
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Hargens

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE
	FILL, gravel	0.5	2" Diameter Borehole				
	FILL, sand, fine grained, brown	1.0					
	FILL, slag, cinders, gravel, brown			1	P/S		
2							
4			Backfilled with Soil Cuttings and Bentonite Chips				
	ML-SILT, sandy, fine grained, brown	5.0					
6	- wet at 6.0ft BGS		▽	2	P/S		
8	END OF BOREHOLE @ 8.0ft BGS	8.0					
10							
12							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽
CHEMICAL ANALYSIS (oval)

OVERBURDEN LOG 039826-BH.GPJ CRA_CORP.GDT 7/21/05

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: H. Kramer
PROJECT NUMBER: 039826
CLIENT: H. Kramer
LOCATION: Chicago, Illinois
DRILLING CONTRACTOR: Paramount

HOLE DESIGNATION: GP-11
DATE COMPLETED: July 7, 2005
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Hargens

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE
0	FILL, gravel	0.5	2" Diameter Borehole				
	FILL, slag, cinders	1.5					
2	FILL, sand, fine grained, black			1	P/S		
4			Backfilled with Soil Cuttings and Bentonite Chips				
	ML-SILT, sandy, fine grained, dark brown	5.0					
6	- wet at 6.0ft BGS		▽	2	P/S		
	SP-SAND, fine grained, brown, wet	7.0					
8							
10	CL-CLAY, gray	10.0		3	P/S		
12	END OF BOREHOLE @ 12.0ft BGS	12.0					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽
CHEMICAL ANALYSIS (P/S)

OVERBURDEN LOG 039826-BH.GPJ CRA_CORP.GDT 7/21/05

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: H. Kramer
PROJECT NUMBER: 039826
CLIENT: H. Kramer
LOCATION: Chicago, Illinois
DRILLING CONTRACTOR: Paramount

HOLE DESIGNATION: GP-12
DATE COMPLETED: July 7, 2005
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Hargens

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
	FILL, gravel	
	FILL, slag, cinders, gravel, dark brown	0.5
2		
4	FILL, wood, black	4.0
	ML-SILT, sandy, fine grained, brown	5.0
6	- wet at 6.0ft BGS	
8	END OF BOREHOLE @ 8.0ft BGS	8.0
10		
12		

BOREHOLE: 2" Diameter Borehole; Backfilled with Soil Cuttings and Bentonite Chips

SAMPLE NUMBER	INTERVAL	REC (ft)	'N' VALUE
1	P/S		
2	P/S		

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ∇
CHEMICAL ANALYSIS ( )

OVERBURDEN LOG 039826-BH.GPJ CRA_CORP.GDT 7/21/05

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: H. Kramer
PROJECT NUMBER: 039826
CLIENT: H. Kramer
LOCATION: Chicago, Illinois
DRILLING CONTRACTOR: Paramount

HOLE DESIGNATION: GP-13
DATE COMPLETED: July 7, 2005
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Hargens

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
	FILL, gravel	0.5
	FILL, slag, cinders, gravel, brown	1.0
	FILL, fine grained sand, brown	
2	FILL, silt, clay, some fine grained sand, slag, cinders, dark brown	2.0
4		
6	FILL, wood, wet	6.0
8	END OF BOREHOLE @ 8.0ft BGS	8.0
10		
12		

BOREHOLE: 2" Diameter Borehole; Backfilled with Soil Cuttings and Bentonite Chips

SAMPLE

NUMBER	INTERVAL	REC (ft)	'N' VALUE
1	P/S		
2	P/S		

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ∇
CHEMICAL ANALYSIS ( )

OVERBURDEN LOG 039826-BH.GPJ CRA_CORP.GDT 7/21/05

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: H. Kramer
PROJECT NUMBER: 039826
CLIENT: H. Kramer
LOCATION: Chicago, Illinois
DRILLING CONTRACTOR: Paramount

HOLE DESIGNATION: GP-14
DATE COMPLETED: July 7, 2005
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Hargens

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE
	FILL, gravel		2" Diameter Borehole				
	FILL, slag, brick, cinders, gravel, brown	0.5		1	P/S		
2							
4			Backfilled with Soil Cuttings and Bentonite Chips				
	ML-SILT, sandy, fine grained, brown	5.0					
6	- wet at 6.0ft BGS		▽	2	P/S		
8	END OF BOREHOLE @ 8.0ft BGS	8.0					
10							
12							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽
CHEMICAL ANALYSIS ( )

OVERBURDEN LOG 039826-BH.GPJ CRA_CORP.GDT 7/21/05

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: H. Kramer
PROJECT NUMBER: 039826
CLIENT: H. Kramer
LOCATION: Chicago, Illinois
DRILLING CONTRACTOR: Paramount

HOLE DESIGNATION: GP-15
DATE COMPLETED: July 7, 2005
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Hargens

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE
0	FILL, gravel	0.5	2" Diameter Borehole				
	FILL, slag, brick, cinders, gravel, black			1	P/S		
2							
	FILL, wood, dark brown	3.7	Backfilled with Soil Cuttings and Bentonite Chips				
4	ML-SILT, trace fine grained sand, brown	4.5					
	- wet at 6.0ft BGS		▽	2	P/S		
6							
8	END OF BOREHOLE @ 8.0ft BGS	8.0					
10							
12							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽
CHEMICAL ANALYSIS (P/S)

OVERBURDEN LOG 039826-BH.GPJ CRA_CORP.GDT 7/21/05

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: H. Kramer
PROJECT NUMBER: 039826
CLIENT: H. Kramer
LOCATION: Chicago, Illinois
DRILLING CONTRACTOR: Paramount

HOLE DESIGNATION: GP-16
DATE COMPLETED: July 7, 2005
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Hargens

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
	FILL, gravel	
	FILL, slag, cinders, brick, gravel, brown	0.5
	FILL, wood, black	4.0
	ML-SILT, sandy, fine grained, brown	5.0
	- wet at 6.0ft BGS	
	END OF BOREHOLE @ 8.0ft BGS	8.0

BOREHOLE: 2" Diameter Borehole; Backfilled with Soil Cuttings and Bentonite Chips

SAMPLE

NUMBER	INTERVAL	REC (ft)	'N' VALUE
1	P/S		
2	P/S		

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽
CHEMICAL ANALYSIS (1)

OVERBURDEN LOG 039826-BH.GPJ CRA_CORP.GDT 7/21/05

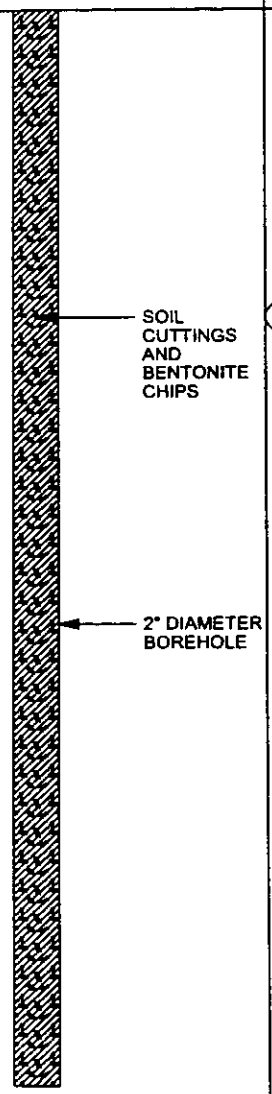
STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: H. KRAMER
PROJECT NUMBER: 39826
CLIENT: H. KRAMER
LOCATION: CHICAGO, ILLINOIS
DRILLING CONTRACTOR: RDNP

HOLE DESIGNATION: GP-18
DATE COMPLETED: January 10, 2006
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: W. POCHRON
DRILLER: DOUG

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
0	GRAVEL	
	FILL-clay, intermixed with brick fragments, gavel, concrete, glass	0.4
1		
	FILL-bricks and gravel, (no recovery below 2.0 ft.)	1.3
2		
3		
4		
5		
6		
7	- refusal at 7.0ft BGS END OF BOREHOLE @ 7.0ft BGS	7.0
8	NOTE: ATTEMPTED 3 ADJACENT BORINGS WITH NO RECOVERY BELOW 2ft. bgs.	8.0

BOREHOLE



SAMPLE NUMBER	INTERVAL	REC (ft)	'N' VALUE
1DP	P/S		
2DP	P/S		

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (1DP)

OVERBURDEN LOG 39826-00 GEOPROBES 1-10-2006.GPJ CRA_CORP.GDT 2/14/06

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: H. KRAMER
PROJECT NUMBER: 39826
CLIENT: H. KRAMER
LOCATION: CHICAGO, ILLINOIS
DRILLING CONTRACTOR: RDNP

HOLE DESIGNATION: GP-19
DATE COMPLETED: January 10, 2006
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: W. POCHRON
DRILLER: DOUG

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE
0	GRAVEL	0.3	SOIL CUTTINGS AND BENTONITE CHIPS	1DP	P/S		
	FILL-clay intermixed with brick fragments, gravely, concrete and glass						
1	- FILL bricks and gravel at 1.2ft BGS						
2							
3							
4			2" DIAMETER BOREHOLE				
5				2DP	P/S		
6							
7	- refusal at 7.0ft BGS END OF BOREHOLE @ 7.0ft BGS	7.0					
8	NOTE: ATTEMPTED 2 ADJACENT BORINGS WITH NO RECOVERY BELOW 1.5ft. bgs.	8.0					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (1DP)

OVERBURDEN LOG 39826-00 GEOPROBES 1-10-2006.GPJ CRA_CORP.GDT 2/14/06

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: H. KRAMER
PROJECT NUMBER: 39826
CLIENT: H. KRAMER
LOCATION: CHICAGO, ILLINOIS
DRILLING CONTRACTOR: RDNP

HOLE DESIGNATION: GP-20
DATE COMPLETED: January 10, 2006
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: W. POCHRON
DRILLER: DOUG

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE
0	GRAVEL	0.3	SOIL CUTTINGS AND BENTONITE CHIPS	1DP	P/S		
	FILL-clay intemixed with gravel, brick fragments, concrete and glass	1.2	2" DIAMETER BOREHOLE				
1	FILL-bricks and gravel						
2							
3							
4							
5							
6	SP-SAND (NATIVE), fine garined, poorly graded, tan to gray, wet	6.0		2DP	P/S		
7		7.5					
8	END OF BOREHOLE @ 7.5ft BGS						

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS ( )

OVERBURDEN LOG 39826-00 GEOPROBES 1-10-2006.GPJ CRA_CORP.GDT 2/14/06

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: H. KRAMER
PROJECT NUMBER: 39826
CLIENT: H. KRAMER
LOCATION: CHICAGO, ILLINOIS
DRILLING CONTRACTOR: RDNP

HOLE DESIGNATION: GP-21
DATE COMPLETED: January 10, 2006
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: W. POCHRON
DRILLER: DOUG

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE
	GRAVEL						
	FILL-clay intermixed with brick fragments, gravel, concrete and glass	0.3					
1	- brick fragments and concrete at 1.3ft BGS						
2			SOIL CUTTINGS AND BENTONITE CHIPS	1DP	P/S		
3							
4			2" DIAMETER BOREHOLE				
5							
6				2DP	P/S		
7	END OF BOREHOLE @ 7.0ft BGS	7.0					
8	NOTE: ATTEMPTED 1 ADJACENT BORINGS WITH NO RECOVERY BELOW 2ft. bgs.	8.0					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (1DP)

OVERBURDEN LOG 39826-00 GEOPROBES 1-10-2006.GPJ CRA_CORP.GDT 2/14/06

ILLINOIS STATE GEOLOGICAL SURVEY

Monitoring	Top	Bottom
gray, dry, sandy, silt	0	3
clayey silt	3	17
Total Depth		**17**

Casing: 4" SCH 40 PVC from 1' to 3'
4" .010 SLOTTED SCREEN from 3' to 13'
Screen: 5' of 4" diameter slot
Grout: CEMENT from 0 to 1.
Grout: BENTONITE from 1 to 2.
Grout: 20/40 SAND from 2 to 17.

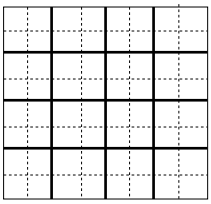
Size hole below casing: 8"

Water from silt at 5' to 17'.
Static level 3' below casing top which is 0' above GL

Owner Address: 1440 W. Cermak Chicago, IL
Location source: Location from the driller

Permit Date: **Permit #:** none

COMPANY JAVCO, Inc.
FARM Coca-Cola Bottling Co.
DATE DRILLED June 10, 1992 **NO.** MW-1
ELEVATION 595GL **COUNTY NO.** 31416
LOCATION SW SW SW
LATITUDE 41.853212 **LONGITUDE** -87.664631
COUNTY **Cook** **API 120313141600** **20 - 39N - 14E**



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